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AGRONOMY;

OR THE SCIENCE WHICH RELATES TO THE CONSTITUENT PARTS AND PHYSICAL PROPERTIES OF THE SOIL, &c.—NO. 7.

MARL.

This substance, which is of so much importance in agriculture, has long been known to many farmers as an active agent in ameliorating and increasing the fertility of land. In many countries there are whole districts which have formerly been improved by the use of marl. Its properties in this respect, were known and recognized by the Romans, but it is only lately that the marling of land has attracted general attention, and there are still many agriculturists who have not a distinct idea of this substance, although but a small amount of chemical knowledge is requisite to enable them to distinguish it from other earths.

Marl is a combination of carbonate of lime and clay. These two bodies are usually found in so complete a state of amalgamation that it is impossible to distinguish the particles of one from those of the other, either with the naked eye or with the aid of the microscope. The agents by means of which this union is effected have not, as yet, been discovered; for, when clay and lime are mixed together artificially, the substance formed is very different from natural marl.

The proportions in which clay and lime are found combined in marl are many and various. Sometimes there are equal quantities of each of these substances, while in others they one predominates considerably over the other. Nature does not seem to have prescribed to herself any rule for the regulation in which they shall be united. Marl has been classed under different heads, according to the proportion of lime or clay of which it is composed. Andrea regards marl simply as a combination of nearly equal parts of clay and lime. If the former predominates so much as to constitute nearly or quite two-thirds, the mixture is then called *argillaceous marl*; and if the proportions of clay are still greater, so that there are three parts of that substance to one of lime, it is then called *calcareous* or *marly clay*. On the other hand, if the lime predominates and forms nearly or quite two-thirds of the mixture, it receives the name of *calcareous marl*; and when the quantity of this substance if still further increased, so that it constitutes three parts while there is but one part of clay, then the combination is termed *argillaceous lime*.

Marl, in all its varieties, is met with in most countries. It is found in different sections of the United States, and its beneficial application upon certain lands in New York, New Jersey, Pennsylvania, Maryland and Virginia, is now attracting increased attention. Nor is it confined to these States alone, but it is found in all that strip of country between the Atlantic Ocean and the falls of the ravines from the Potomac to the Gulf of Mexico. It is found in the sides and bottoms of the rivers, with which the land near the rivers, creeks, and branches is much broken. It is also found in the beds of branches or brooks. In some places it is found almost at

the surface, and in others at the depth of several feet, though rarely at a greater depth than four feet, except on the level and unbroken lands, where it often lies fifteen feet below the surface. These beds of marl are composed of marine shells of a great variety of shape. Some of these shells, on exposure to the weather and one or two rains, are entirely decomposed; others are not so readily decomposed.

Some years ago Mr. Edmund Ruffin, of Prince George, Va., published a work on calcareous manures, the result of his own extensive experience in their application, which has proved of incalculable benefit to that section of the country. The green-sand marl of New Jersey has wrought wonders on some of the lands in that and the adjacent States. A company is now formed which is doing an extensive business in shipping this marl to various parts of New York as well as New Jersey.

We have no doubt that marl will be found in many sections of the interior States, when from over cultivation the exhausted condition of the soil shall require its application.

FLAX SEED.

It has occurred to us that we could not serve the interests of our readers better than to give them some thoughts on the cultivation of flax seed. This crop is exciting more than usual interest throughout the country, on account of the demand for the fibre, as well as the seed.

For many years the most intelligent and thorough farmers in the older sections of the Union have cultivated this crop for the seed alone; particularly in Ohio, New York, and other Eastern and Middle States. The usual practice is to raise on the same piece of land, a crop of wheat one year, and the next year flax; sowing the flax early, so as to have it out of the way in time for early wheat sowing, and, after the wheat is taken off the stubble and a good stock of clover is turned under by a fall plowing.—There are farmers that have pursued this course for twenty years, without exhausting the soil, and always reaping profitable harvests every year, avoiding the loss of every alternate year in summer fallowing, as is usual with most farmers. The flax crop, when sown thin, as is the practice when raising it for the seed, leaves the land in fine condition for almost any other crop, a fact which is not generally known or appreciated.

It is a very common practice to sow barley and flax together, as they mature and are harvested at the same time and can be threshed together, and the two very easily separated with suitable screens in the fan. This practice is meeting with much favor, and is said to be a very profitable method of cultivating both barley and flax seed: indeed some farmers assert that the yield of flax seed is not diminished by the growth of the barley, nor is the yield of barley less on account of the flax seed. But we give these items more for the expectation that every farmer will make tests for himself, than that he will take the statements as settled facts for all kinds of farms in all localities. But nothing can be more certain than that the farmers throught the entire West—the length and breadth of the Mississippi Valley can make the cultivation of flax seed a very profitable crop, not second in value to wheat, corn, or any other; the seed always commanding ready sale for cash, at high prices. It is a remarkable fact, that the demand for flax seed has increased for the last year from one to two hundred per cent. The "Patent Press Oil Works" (Latourette & Wyman,) of St. Louis, completed and in operation the last year, are capable of consuming one hundred and fifty to two hundred thousand bushels per annum. The proprietors of these works are offering to contract largely, and offering every inducement to farmers to turn their attention more generally to the cultivation of flax seed. The Collier Lead and Oil Works, of this city (H. T. Blow), also consume about as large a quantity of flax seed annually. In addition to this, there have been several Oil Mills erected the past year, within the range of country trading with this city. We subjoin some practical directions for cultivation:

NATURE OF THE SOIL.

Almost all kinds of soil will grow flax seed successfully, especially such as are adapted to wheat. If sown on rich bottom lands, you get a luxriant growth of straw, but not so much seed as when sown on upland. Clay, hardpan, or sandy lands, are better for a good yield of seed, though rich loam, or prairie lands are good, especially if they are rolling and well drained. It must be borne in mind that a selection with a view to a good crop of seed, is quite different from one for a good crop of fibre—the one requiring a harder, dryer soil, while the other should have a low, rich, moist land. A dry season is favorable to a crop of seed, while a wet season is almost indispensable to a good crop of the fibre.

PREPARING THE GROUND.

The ground for flax seed should be plowed the

fall before, and again in the spring, and finely pulverized with a heavy harrow. Thorough, deep plowing, and pulverizing the earth as far as possible, should never be neglected. The seed should be sown broadcast, and should have as light a covering of earth as possible, and to this end, a brush should be used instead of a harrow, so as not to cover the seed too deep. The field should be laid off in furrows or lands, and trenches run with the plow to carry off the surplus water.

TIME OF SOWING.

It may be sown as ealy in the spring as can be done with safety against frost. Many persons pay no attention to frost, and sow quite early, some even sow it on the snow in February or March, as about nineteen cases in twenty frost does not injure it; but there is a particular stage of the growth of the young sprout, when, if the frost takes it, it will perish, which gives the preference to ordinary spring sowing. If not sown till rather late in the spring, it frequently does not get sufficient growth before the dry weather overtakes it. Therefore, sow late enough to avoid the frost, and early enough to secure early spring rains.

KIND OF SEED.

Particular care should be taken to get large, full, and well matured seed for sowing. Where the crop has been very thick on the ground, the stalk is pale and weakly, and does not afford sufficient maturity for the berry, and seed from such a crop should always be avoided. The best plan is to have one corner of a field sown on purpose to get seed for sowing the next year, and on this corner, the less seed you can get evenly scattered over the ground, the more vigorous and mature will be the stalks and the seed. There are different varieties of flax seed, and some are prefereable to others for their seed yielding and oil producing qualities. But it is so difficult to get any pure species, it is, perhaps, better to disregard varieties, and select seed for its apparent goodness. Always sow pure flax seed, without any mixture of foreign seeds. Too much care cannot be taken on this point. Be particular to riddle out all yellow grass, cockle, mustard, rape, or other seed, and starting with a pure seed, you will have no difficulty with foul stuff, and will always have the greatest yield per acre, and obtain the highest price when you market your seed.

QUANTITY OF SEED.

Much difference of opinion exists in regard to the quantity of seed to be sown per acre, but the probability is that the quantity should be varied according to the condition of the ground, season, &c. The most successful raisers practice very light sowing, some even as low as eight quarts per acre; but a fair average quantity for all farms and all circumstances is, say from twelve to twenty quarts, when the crop is cultivated exclusively for the seed—thus securing plenty of room for the stalks to stand upon the ground and spread out their branches, and giving the sun access to their roots, and securing strength of earth for nourishment and maturity of the stalk. When sown thin, the stalk branches nearly down to the ground, and each branch is loaded with bowls. When sown thick, the stalks are spindling and weak, and often have but a single berry on the top, and perhaps no seed at all; besides, exhausting the soil to a wonderful rate. A piece of ground that has been burthened with a thick mass of flax fibre is good for nothing for years after. When sown thin for the seed, the fibre is very short and coarse; but in the new linen process, as well as for the paper mills, is quite equal to the fine fibre. In Ireland, where the finest linen is produced, it is not uncommon to see as much as twelve bushels of seed sown to the acre, so that the stalks are little above fine threads, growing up through each other in a dense mass, and producing no seed at all. In Russia, the German States, other portions of Europe, and in India, the quantity of seed sown is regulated more to a view of both seed and fibre, and the quantity ranges from 1-4 to 2 3-4 bushels per acre.

TIME OF HARVESTING.

Flax seed should be cut before it is quite ripe, when the bowls are beginning to pass from the yellow to the brown color, and it is better to let it lay a few hours, if the weather is dry, before it is bound up, so that the seed can fill and ripen from the nutriment remaining in the stalk. If it is left standing till the seed is quite ripe, a large proportion of the seed will be lost in gathering the crop.

MANNER OF GATHERING.

The crop can be cut with the cradle, or in any of the usual modes. After laying in the swath a few hours it should be bound up in bundles and put in stack or barn, secure from the weather. Some farmers mow the crop the same as hay, and handle it in bulk; but the best way is to cradle, rake, and bind in bundles.

THRESHING—TIME AND MODE.

It should be threshed as early in the fall as possible, and in a time of dry weather, for if it lays too long, the seed is apt to adhere to the shell, and is more difficult to thresh and clean

up, and for the same reason, it should not be threshed in damp weather.

Any of the usual modes of threshing wheat or oats, will do for flax seed. When a threshing machine is used, the cylinder should be of the open kind, i. i., with the teeth set in a cross bar, and an open space between them. The tow is apt to wind around a tight cylinder, but the open cylinder machine will clear itself.

CLEANING UP AND MARKETING.

The seed should be cleaned upon the barn floor, and in still weather. When it is cleaned up in the field, or when the wind is driving dust about, the dust and dirt gets in with the seed, in spite of all efforts to clean it with the fan, causing it to look dull and dusty, and the oil makers will not buy it as prime seed. When it is cleaned up and ready for market, it should be put into new, strong bags; for there is no other seed, or other grain, that will creep out of so small a hole, or that is so likely to burst the bag. If the seed is plump and clean, and your half bushel is correct, you will find that it will more than hold out by weight. The standard weight of a bushel is fifty-six pounds, and you will find that prime seed will go sixty pounds.

Liquid Manure---Sewerage of Cities.

Manures are only available to growing plants in a state of solution. The best manures are often lost because they are in the liquid form and cannot be so easily handled and made available without some conveniences, calculated expressly for gathering and transporting them to the land.

The drainage of our stables and barnyards is too often allowed to go to waste, when a small quantity of earth, turf, straw or leaves, would absorb and retain it in a form that could be handled and transported in the common farm cart.

The sewerage of cities might be made a source of immense wealth to farmers and gardeners in their immediate neighborhoods. Mr. Mechi, the celebrated English Cultivator has his lands traced with a net work of earthern pipe or tile for drainage and for the introduction of liquid manure into the soil to the roots of growing plants ready for their immediate wants.

In a late number of the London *Times*, Mr. Mechi directs attention to the importance of using the sewerage matters of the city of London for fertilizing the land.

In the city of New York the street sweepings are sold for several hundred thousand dollars annually. This is transported from the city mostly in boats to the farms and gardens in the immediate vicinity and to Long Island, New Jersey, &c. The sewerage of the city carries with it into the rivers much of the richest portions of the manure that might be saved and applied to the land with good advantage.

Land is as high around New York as it is around London, and garden vegetables are nearly as high in the former as in the latter city, and farmers and gardeners of New York are beginning to feel the importance of making use of every material that will in any way serve to enrich their lands.

Upon our rich lands in the West we do not think the time has come for saving the sewerage of our cities for this purpose, but a knowledge of its importance in other countries may afford a lesson to our Western farmers that will teach them the value of other manures within their reach and prompt them to save and apply them with greater care to their farms.

SMUT IN WHEAT.

Much has been said and written about smut. Many experiments have been resorted to, to discover its cause. The most enlightened inference seems to be that it is a disease, but what and how caused and cured are the important questions. We do not propose a discussion of the subject here, but only to quote from the Wisconsin *Farmer* the experience of a wheat grower. He says:

But as I have ever, in regard to all diseases, considered an ounce of preventive equal to a pound of cure, I have therefore from careful investigation become satisfied that the most fruitful source of smut is the heating of the seed in the mow. With this view, my preventive for some years past has been to let my wheat for seed stand until quite ripe before cutting, and then I advise to put the same on a scaffold until fully cured.

Since I have practiced this mode of saving seed, I have had no smut in my wheat, although my neighbors complain of their wheat smutting.

BIRDS.—There are no laborers in the world more useful to the farmer and gardener than birds, particularly those which live wholly on insects. Among these, the swallow is considered one of the most useful. It is estimated that a single swallow destroys not less than nine hundred insects in a day. When it is considered that some insects produce as many as nine generations in a summer, we can readily see the importance of the labors of birds. Never let a bird that lives upon insects be destroyed.

THE BEST PROFESSION.

There are many young men of earnest and noble purpose who are asking themselves the question, what is the best profession? There are many parents who have sons of promise, who are seeking an answer to the same inquiry. We propose to address a few words to such on the subject in which they are so much interested.

It is well that they are interested in this enquiry, for a profession is generally a life business. It is at once an occupation, a field of usefulness, and a school of culture. It is more than a question of food and raiment, it is a question of character, standing and usefulness. A man's life, be it good or bad, is made in his profession. The profession often makes the man; not because the profession is intrinsically so important; but because it is adapted to the man's mental characteristics. What is the best profession for one man is not always for another. One may do well in the law, and fail elsewhere. Another may succeed nobly on the farm and make poor headway in other pursuits. Another may be very useful in the ministry, and be of little service in any other calling. Another may make his name great and his life a blessing in a machine shop, who would make a poor figure anywhere else. So it is; men differ as well as professions. The first question is, what am I best adapted to? What is my son made for? It is vain to put a natural born farmer into the pulpit or the bar. It is suicidal to put a fine mercantile ability into a blacksmith shop, or a genuine blacksmith at a jeweler's bench. Almost every boy has a peculiar adaptedness to some calling. Much as we honor the profession of agriculture, we know many men make a sorry job of it, because they were made for something else. There is bad farming as well as bad preaching and bad pleading. So there is bad mechanism and merchandising. And much of all bad work in all professions is done by men who are out of their places. Many a minister ought to be a farmer; many a lawyer ought to be a mechanic; many a farmer ought to be in some other profession. It is a great thing to get in the right place, and the first thing to be aimed at.

But still the question is unanswered, what is the best profession? or what profession is best for the greatest number? There is undoubtedly some one calling better than any other; some one which on the whole answers the great ends of life better than any other. We say, undoubtingly, that one is the farmer's.

It is best, in the first place, because it suits the greatest number; is best adapted to the general tastes and abilities of mankind; is best because it combines mechanical and mercantile operations with its own; is best because it supplies the leading wants of families and society; is best because it is surest and safest; is best because it is most essential and must always be the chief pursuit of man; is best because it is healthiest, and affords the best physical school for our bodily powers; is best because it is the most independent and confers the most peace; is best because it confers the most solid blessings upon a country, is, in a word, the grand source of national wealth, virtue and prosperity; is best because it is most favorable to liberty, virtue and good will among men.

We do not contend that in the present state of society agriculture is the best profession for everybody, but best for the greatest numbers; is best for the most purposes; and for the most substantial reasons.

We wish to say much more upon the general subject in the course of the present volume, and call attention to it now chiefly to introduce the subject and awaken thought.

LEGISLATIVE AID TO AGRICULTURE.

Several of our State Legislatures have extended considerable encouragement to agriculture, by making appropriations through their State and County agricultural societies, and for the establishment of Agricultural Colleges, &c. But generally, this most important of all branches of human industry and national prosperity is too much neglected in many of the States.

Ohio has made appropriations to the State agricultural society and has also appropriated a liberal sum for each county, when the farmers thereof shall organize an agricultural society and raise a like sum to be appropriated as premiums.

Missouri has made similar appropriations.—The Legislature of Kentucky at its last session, in the act incorporating the State agricultural society, appropriated $5,000 a year for two years, for the encouragement of the farming interests of the State. Had an additional appropriation of two or three hundred dollars a year been offered to the farmers of each county who would organize a county agricultural society and raise an equal sum to be offered in premiums, we think that no more wise appropriation could have been made. Such an appropia-

tion under the management of intelligent and judicious officers, would not only encourage and improve the agriculture of the several counties, but would greatly promote the interests of the State at large. Michigan has done nobly for the cause of agriculture in that State. We do not now remember the amount that is given through the State society, but a large appropriation has been made for an agricultural College, which is now nearly or quite completed and ready to be opened for the reception of students. In connection with the College, is an experimental farm, where the practice as well as the theory of agriculture in all its various departments, is to be taught.

The New York State Agricultural Society is one of the oldest in the country. The Legislature of the State has done more to foster and encourage this great interest in New York than has been done by any other State in the Union. Besides the aid that has been extended through this society, an appropriation of $40,000 has been expended in erecting the new State Geological and Agricultural Hall in Albany. This is a model institution of its kind, such as should be found in every *agricultural* State in the Union. The building is of pressed brick, and was erected in 1855. The main building is 81 feet front on State street, and 52 1-2 feet deep, with a wing 68 by 40 feet, each four stories high. The front part of the basement story is for the accommodation of the *Taxidermist, Janator, Chemical Labratory,* heating aparatus, &c. The principal floo of the main building on the east of the main entrance, is devoted to the *Office* and *Library* of the State Agricultural society, and on the west to the Geological collection. The principal floor of the rear part is occupied as a lecture room and for the meeting of the society, 40 by 68 feet square and 15 feet high. The halls above the lecture room, of the same size, with two galleries, lighted with sky-lights and windows, are for the society's Agricultural Museum. The whole of the residue of the main building is for the State collection of Natural History, Minerals &c.; and that portion on the west of the main hall is open from the first floor to the roof and has three galleries. The whole is lighted with gas and supplied with water.—The State furnishes the building and officers with fuel, gas, &c., and pays the salary of Curator of the Natural History department.—The State agricultural society pays the salary of its able and efficient Secretary, Col. B. P. Johnson, who devotes his whole time to the duties of his office, an office thathe has filled for many years with credit to himself and profit to the society.

While in Albany a few weeks since, we spent a part of several days in examining the specimens of Natural History of the State, the Geological collection, and the Agricultural Museum. In the latter department we were delighted in examining the rude plows that had been used in early times by the Chinese, French, Mexicans, and by the farmers of other nations, and other specimens manufactured in this country in 1780, 1800, 1806 and 1814, and comparing them with the many improved and beautifully finished plows in the collection of the present day.

Col. Johnson has added to the museum many other novel specimens of domestic implements and machines of other nations and of early times, that will be compared with the improvements in future ages with admiration and delight.

The galleries above the lecture room are furnished with cases extending nearly to the ceiling, with glass fronts, one of which is appropriated to each county in the State, and are to contain specimens of the soil and of the various farm products of the county. Some of these cases are already filled with specimens, showing the geological character of the several counties, and of the soils, together with the grains, grasses, &c.

Another great step in aid of the agricultural progress of the State has recently been taken. A farm has been purchased in Ovid, Seneca county, containing 670 acres of land, upon which is to be established an Agricultural College. The legislature of the State having already made an appropriation of $40,000 for the purpose, and upwards of $40,000 more have been subscribed for the endowment of the "Delafield Professorship of Agricultural Chemistry." The officers of the college have already been appointed, so that the institution may be expected to go into full opearation at an early day.

We allude with pleasure to these signs of agricultural progress in these States, with the hope that it may encourage the establishment of similar institutions in the States of the great West which are almost exclusively agricultural in their character. With a correct knowledge of agricultural science our lands may be made to yield double the amount they now do; and instead of the constant deterioration of the soil, that is now rapidly going on, and which, if not arrested by an improved system of cultivation, will ultimately be reduced to that exhausted condition that marks the character of the older States of the Union.

MANURES---STRAW PILES.

The subject of manures is too much neglected by the American farmer. The fertility of our lands is not inexhaustible, as is evident from the worn out condition of the lands in some of the older States. There are many materials upon every farm that may be turned to profitable account in the manufacture of manure without incurring great expense of time or money. One of the greatest sources for the supply of manure to the Western farmer and one which is more neglected than any other, is the immense piles of straw which are suffered to lie where the grain was threshed from year to year and decompose, until the largest portion of its fertilizing elements are dried up and scattered by the winds, unless to make a more speedy and effectual destruction of the whole, fire is put to it and it is consumed in order to remove it out of the way. In this manner thousands of tons of the cheapest and most available material for manure is annually destroyed which should have been restored to the soil from whence it was taken.

The best disposition that can be made of this old straw is to haul it in to the stables and cattle yards to be used for litter and bedding for the stock, which in the long, cold nights of winter is so much needed for their health, comfort and improvement, and as soon as one supply has absorbed the urine and become mixed with the droppings of the horses and cattle it should be thrown into a pile to ferment and decompose, and its place in the stables and yards replenished with a new supply. In this way many tons of valuable manure may annually be made.

The next best disposition that can be made of the straw is to spread it where it lays in alternate layers of straw, eight, ten or twelve inches deep, and of peat or turf from the fence corners or creek sides, to a depth of two or three inches until the whole is disposed of, where it will speedily decompose, and may then be hauled out upon the fields again.

Farmers who are laboring under the mistaken notion that the fertility of their land is inexhaustible may regard this disposition of their straw too laborious. Such then ought not to do less than to haul it out and spread it as it is upon the poorer ridges and fields upon the farm to be plowed under for succeeding crops.

Every ton of straw that is suffered to go to waste upon the farm, or which is more speedily destroyed by fire not only takes from the soil that amount of its original fertility, but the grain which grew upon it and which has been sold off has taken with it a still larger, but more concentrated portion. Continue this process for forty years, or even less, and the richest land will become exhausted beyond the remunerating point of cultivation.

Shade Trees on the Prairies.

With all the natural beauty of the Prairies there is a *nakedness* around many a farm house, that in the season of winter imparts a shudder to the beholder, and under the burning sun of July the opposite sensation is very forcibly brought to mind.

With proper care and forethought in establishing nurseries of shade trees in various sections of the prairie region, not only a profitable trade might spring up with the grower, but he would have the proud satisfaction of witnessing a few years hence, the vast improvement he had caused in the landscape, and the comfort he has been instrumental in imparting to his fellow neighbors. There are a variety of fast growing shade trees suitable to fill the great blank around the many farm houses of the prairies.

But all need not wait for the trees to be planted and grown in the nursery. There are thousands of native trees of large size upon the borders of the streams, and in the wood-skirts that may be removed with the most perfect success, if due care is only taken in the operation. We have removed trees twenty feet high and eight inches in diameter and hardly lost 5 per cent of them, by the removal. The proper season is now approaching, and we will give the necessary directions.

If the tree to be removed is large, say from four to six inches in diameter, a trench of from eighteen inches to two feet should be dug from the body, all around the tree, saving the earth about the roots entire, except on the top it may be thrown off to the surface of the roots. Cut off the roots that come within the trench, leaving the ends smooth and clear, let the tree stand until the ball of earth around it has became so firmly frozen that it may be handled without breaking. The holes to receive the trees should also be prepared and the richest parts of the earth that is thrown out should be laid in a compact pile, and covered with stalks or straw to prevent it from being frozen when wanted to fill in around the tree. To remove the tree the tap roots must be cut, leaving the ball of earth as large as can conveniently be handled, or according to the size of the tree. With a rope secured near the top, the tree may be pulled over upon the fore axel and wheels of a wagon, or a common slide (sled) and hauled to the place where

t is to be planted. Care should be taken to bind the body of the tree with straw or corn stalks, where it comes in contact with the sled or axle of the wagon, so as not to bruise the bark.

Before the tree is set, its branches should be thinned and shortened, in proportion to the loss of the roots, in the act of removal. Care should be taken to cut and thin out the branches so as to leave a well balanced head, and to shorten them according to the size of the tree, from three to five feet from the stem and not according to the absurd practice of some by cutting everything close to the body of the tree, leaving it as bare as a bean-pole, without an eye or a bud to furnish a leaf. A tree to grow with certainty, when removed, requires a proper number of vigorous buds, which are as essential to its growth as a due portion of roots.

These hints are worth remembering and may be practised upon during the winter months and even as late as March, should the weather be freezing.

Agriculture the most Honorable Pursuit.

It is too generally the case that agriculture is looked upon as a low pursuit. It is directly the reverse of this. It is the highest, the noblest, the most honorable pursuit in which man can ngage. It is the pursuit which the first man followed when he was placed in the garden of Eden and commanded to "dress it and to keep it.' It is the pursuit which the best men of all ages have followed—which has numbered Socrates and Cincinnatus, and Burns and Lafayette and Jefferson and Washington.

What pursuit can be more honorable than that of cultivating the soil, and drawing from nature's vast resources, those productions which support and sustain life? What vocation in life can compare with it? Who need be ashamed or disgraced in pursuing Agriculture? unless he does it so imperfectly and improperly as to bring disgrace upon himself, not upon his pursuit.

One cause undoubtedly which has a tendency to place a low estimate upon the profession of Agriculture, is the low standard of intelligence which too frequently is the case, is considered necessary to pursue it successfully. But every year this standard is being elevated, and it will not be long before a thorough education will be considered as indispensable to the farmer as it is to any of the learned professions. When this is the case, when the pursuit of Agriculture is properly appreciated, when intelligence is considered an indispensable requisite to the pursuit we shall not have that vast train or young men annually leaving farm life and embarking in the learned professions, or in commercial pursuits, there to lead lives harassed by the most perplexing cares where failure is too often the result.

[Written for the Valley Farmer.]

FARM ACCOUNTS.

MESSRS EDITORS:—Experience has shown me that it is all important to any one doing business, farming not excepted, that they should adopt and steadily pursue a system of book keeping, correct in its detail, in order, certainly, to know whether it is advisable to continue or change the business.

I have some years since adopted a system of keeping farm accounts, which to me is very satisfactory, and I have found none better. For the benefit of my fellow farmers I will describe it, so that perhaps it may be understood, and adopted if any may think proper.

I keep a book of considerable size, which I call my Farm Register. On the first page, I have a draft of my farm, with all the fields and lots numbered, on which I pursue a regular system of rotation of crops, suited to my land, and to produce the greatest amount of profit from the least labor.

On the first day of January in each year, I take an inventorty of property, marking the estimated value of both real and personal, clasifying each kind of stock, real estate, farm implements and household goods by themselves, so that it may be shown each year, what the difference is, if any. Each animal, if horses and cattle, are named and valued separately; sheep, hogs, and poultry, collectively. When an animal is sold, the price obtained is marked in a separate column, by the side of the original valuation, wnich shows at first sight, whether it exceeds the valuation or not. I then leave a page to post up the hired help and expenses of labor on the farm, and then open accounts on separate pages for each crop, to wit: wheat, corn, oats, &c., &c., giving plenty of room for a full account, then a page or two for sales of produce and property. After leaving an extra page or two, I commence my daily register for the year, giving date and noting down what is done on the farm, by each individual employed—at what kind of work, in what field, and for what crop—then any transaction of business, sales or purchases, or anything else that may be of interest, with remarks, if any are necessary, and lastly, lto note the weather. I usually keep a smal

memorandum book in my pocket, in which any transaction of business is noted at the time and afterwards placed in the Register. It requires but a few minutes each night to make the entries. The labor to the crop, may be taken from the register and posted up as a charge against the crop, weekly or at any time thought proper.

At the end of the year one can add up the columns and strike a balance between the cost of products of the farm and the sale or net proceeds of the same.

I also keep a cash account, commencing at the last page of the register, and carrying it the other way, so that when the register is full there are no waste pages. In this account I rule double columns for dollars and cents, making all monies paid out in one column and all received n another, but making all the writing of both debtor and creditor on the same page, and after the other as they may occur, merely separating it in the figures. This cash account is very essential in keeping separate the different expenses, for when money is paid out it is always stated what it is for and when received, from whom and what for.

It is not a very great task to keep a farm register, and soon becomes a pleasure which increases as years roll on, for in it, each year has a separate inventory or valuation of property, and a true estimate of one's estate, besides it shows a variation of prices of products and property yearly as they may occur. The Register, also, is an index to all farm work, plowing, sowing, planting, harvesting, &c., &c., showing the variations of the seasons and very many matters of interest to the investigating mind of a practical farmer.

A. Y. Moore.

Schoolcraft, Kalamazoo Co. Mich.,

[Written for the Valley Farmer.]

PORTABLE FENCE.

Messrs. Editors.—Several persons having applied to me for information respecting the fence referred to in a recent number of your paper, you will perhaps confer a favor on them and some others by inserting the following:

The plank fence can be made of lumber of any length or breadth desired, according to the place and purpose for which it is designed. My own is in pannels of 14 feet in length, and 4 feet 10 inches high. Five planks are used as rails, the bottom two are 7 inches wide, the next two 6 inches, and the top one 5 inches; these are nailed to the edges of vertical pieces, 4 feet 9 inches high, 5 inches wide, by 1 1-2 inches thick; one of these vertical pieces is placed at the middle of the pannel, and one at 5 inches from each end. A plank 6 inches wide is nailed on the top of the pannel, covering the vertical pieces and the top rail, and is sawed with a bevel at the end, which will be more or less acute, as the fence has more or less "worm." I have given mine 5 feet "worm;" shorter pannels would of course, require less. The pannels are connected together by means of hooks made of stout wire, fastened into the cap plank by a broad headed riviting nail, and catching on a similar nail in the next pannel.

If the fence is designed to be permanent, I dispense with the cap plank and hooks, and fasten the pannels together by nailing a short piece of six inch plank on the top of the two end posts. Against the side of the bottom of the middle post I nail a plank 5 inches wide and 4 feet long, extending 2 feet on each side of the pannel, and at right angles to its direction, which stiffens the fence very much. Pannels 10 or 14 feet long require no middle post.

In my Picket Fence, I use slats 3 inches by 1-2 inch or 5-8 inches thick, and of different lengths, according to the stock to be guarded against; three feet is high enough for hogs, five feet for any decent animal. These are nailed to the edge of plank 11 feet long, 4 inches wide and 1-4 inch thick, put one foot from the bottom and top, and left 2 1-2 inches wider apart at one end of the pannel than at the other, so that the rails of one pannel fit between those of the next; an inch auger hole is bored through these rails where they thus join, about 5 inches from the end of each and a good, durable wooden pin inserted. By removing these pins any pannel can be opened as a gate. If you wish to turn rabbits or small chickens, put your pickets 1 1-2 inches apart and nail a 6 inch plank agains the bottom of them. Four feet "worm" is enough for this fence. When no bottom plank is required the position of the pannels should be reversed whenever they are moved—the end which was on the ground being put uppermost.

In constructing this fence, I take two trussels, bore, near one end, two inch holes, 1 1-4 inches apart, and at whatever distance you want your rails apart, bore two other holes 1 1-4 inches apart; put pins in these, coming as high above the trussel as your rail is wide. These pairs of pins should be wider in one trussel than they are in the other, by twice the thickness of your rail, in order, as I mentioned before, that one pair of rails may fit between the other pair.

These trussels should be set exactly parallel with each other, and as far apart as your rail is long. The rail is put edgewise between the pins; the pickets nailed on with two six-penny nails at each end, and when one pannel is completed, it is removed and another made.

In making the plank fence, two trussels, 14 feet long, were used, in each of which three sets of pins were put, between which the vertical pieces were placed edgewise. Two hands can load a pannel of either of these kinds of fence, on a wagon coupled sufficintly long.

When I have leisure I will give you a plan for a Moveable Gate, which one man can take down and set up again in a few moments, and which I think very serviceable when persons desire to have temporary access to an enclosure.

Yours truly, F. B. S.

HAZLESIDE, Marion Co., M.

P. S. Will some of your correspondents give us some further information about Barley, its varieties, culture and preparation for market?

Inquiries.

MESSRS. EDITORS.—Will you please insert in your columns, the following query, for the attention of your intelligent and practical readers?

What proportion of grain, *per acre*, is there usually left in the field, after the the crop is harvested, that might be saved by the *proper use of the Horse Rake*?

I am inclined to believe that if my observations are correct, and are borne out by the experience of the *practical* farmer, that a correct knowledge of the above will enhance the interests of all concerned.

Yours truly,

J. J. S.

ST. LOUIS, Mo.,

MESSRS. EDITORS.—I wish you or some of your subscribers would enlighten us on the subject of Hop Culture, as it seems to me too bad that St. Louis should have to get all her hops from other States.

The culture of Flax for the seed, ought to be more extensively known and practiced, if the very high price of linseed oil is likely to be lasting.

Information on these subjects communicated to your subscribers through your columns would be highly interesting, and turn the attention of some, perhaps, to business of more profit than that which they may now be following.

Yours respectfully, S. H. N.

CANTON, Mo.

[Written for the Valley Farmer.]

STIRRING THE SOIL.

The question is often asked, in what way does stirring the soil increase the moisture in dry weather? The answer generally given, is, that it makes the soil more porous and attracts the moisture from the atmosphere, and that the dews penetrate the loose surface more freely, and thus increase the moisture. This appears very reasonable at first sight, but I am inclined to think differently. From close observation and experiments followed up for a space of fifteen years, I have come to the conclusion that the soil absorbs little or no moisture from the atmosphere in dry weather, but that it is constantly giving it off, except on still nights, when there is a perceptible dew. It is then suspended, but nothing of any consequence added to the soil from the atmosphere.

The reason why soil that is finely pulverized, and kept mellow, contains more moisture, is not in its power to absorb moisture from the atmosphere, but by its greater power of retaining that which is constantly arising from the subsoil. When we get a finely pulverized surface of dry soil, we get the best non-conductor of moisture we can have, if we except old tan bark, short grass and such materials as are used for mulching. But such articles can only be used to a very limited extent and do not apply to general cultivation.

It is generally believed that the dews enter the soil, when finely pulverized, more freely than when the surface is unbroken. If this was so, we should not see it deposited on the surface of unbroken soil. If it has not been absorbed what has become of it, for it surely must have fallen there as freely as on other soil? The answer is very plain, if what I have said of the power of a finely pulverized surface to prevent the escape of moisture is true, for it is plain that if it possessed the property of preventing the escape of moisture from below, it will also exclude it from above in like manner.

The fact is, the ground is actually more porous in an unbroken state, than when made fine and mellow. Working the ground fine on the surface closes the pores and thus cuts off evaporation which is the great thing to be obtained in a dry season. There is always a great reservoir of moisture beneath, but when the soil becomes hard and compact, it passes off so rapidly that the soil near the surface retains but little of it, but by having a finely pulverized stratum of soil at the surface, evaporation is arrested there, and the soil immediately below it be-

comes charged with moisture from below, and not from the atmosphere, as is generally supposed. Little advantage will be gained by stirring the ground in a dry time, unless the surface is left smooth and fine. Hence the great advantage of the cultivator over the plow for stirring the soil, as it leaves the ground smooth and fine, exposing a less surface to the drying influence of sun and winds. After the soil has been well worked and made deep and mellow for the roots of plants to penetrate freely, and a fine smooth surface obtained, little will be gained by stirring again until the soil becomes packed, (unless to keep down weeds). After rain the surface should be stirred as soon as the ground is dry enough to work down fine and smooth. Ground that works up rough and lumpy, as is sometimes the case, after a wet spring, on stiff soils, will be more benefitted in point of moisture by breaking down the lumps, than by too frequent stirring, if allowed to remain in its rough state.

JOHN SAYERS.

Cottage Garden, Cincinnati, O.

We thank the writer of the foregoing for his practical views upon the important subject of a mellow surface in cultivated crops, and concur with the opinion he expresses. The amount of moisture absorbed from the atmosphere by a mellow soil depends mainly on the comparative temperature of the two. If a recently stirred surface is moderately moist and of temperature *lower* than that of the surrounding atmosphere, the moisture from the latter, will, in some degree be condensed and absorbed by the soil, but when the temperature of the two is nearly in equilibrium, then but little moisture will be condensed from the atmosphere and taken up by the soil. When the dew falls upon a hard, unbroken surface, it remains in unbroken globules until it is again evaporated by the heat and sun of the morning, but if it falls upon a mellow moist surface, much of it will be absorbed by the soil which adds so much to the capital stock on hand. —EDS. V. F.

THE PRODUCT OF 1855.—Mr. Brown the superintendant of the Agricultural Bureau of the patent office, at Washington, makes the following statement of the grain products of the United States for 1855 :

	Bush.	Val.	Total Val.
Indian Corn,	600,000,000	$0 60	$360,000,000
Wheat,	105,000,000	1 50	247,000,000
Rye	14,000,000	1 00	14,000,000
Barley	6,000,000	90	5,940,000
Oats	100,000,000	40	63,000,000
Buckwheat	10,000,000	50	5,000,000

The Vegetable Garden.

THE VEGETABLE GARDEN.

Every part of the farm has its peculiar value, but we place the highest estimate upon the vegetable garden, especially so in proportion to its size and the amount of money and labor invested in it. It is most important because it produces most, most nutriment, most money, most profit, most of everything for which the farmer labors. It is in truth the most productive part of a well arranged farm. It is nothing strange for a good vegetable garden near a city, carried on by a small family, to support the family and yield $1000 a year clear profit. Let any one calculate the profit of a good garden from a single bed sowed to beets, onions, parsnips, or planted with tomatoes or cabbages, or any other productive vegetable and he will see at once how great is the profit. The amount of food thus produced on a small piece of ground is very great. And on a farm it can be done at odd jobs, in moments that would otherwise be idle, by old people, children and women, whose labor in the garden would be a real benefit to them, so as not to interfere with the labors of the farm. As a general rule the products of a vegetable garden on a farm may be considered as a clear gain.

It is important because the food raised in a garden is not second to any raised elsewhere; is, we believe, better on the whole, than bread and meat, at any rate, should be largely mixed with the bread and meat of our meals. Bread and meat alone are too nutritious tax too severely the powers of the stomach. What we mean by too nutritious, is, that they contain too much nutriment for the bulk, the nutriment is too concentrated. The most of the vegetables of the garden are less nutritious. Turnips, tomatoes, potatoes, cabbages, squashes and even onions, beets and parsnips are less nutritious than bread and meat of the same bulk or weight. They are agreeable to the stomach and make its work easy. Few people are, or ever would be, troubled with the dispepsia, weak or bad stomachs, or bowel complaints whose food is largely composed of garden vegetables properly cooked. We think a tomatoe, potato, beet or turnip, better than a pill or a vomit for the health Hence, the vegetable garden diminishes the doctors bill, the bread bill, the meat bill and increases the health, strength and vivacity of spirits.

The vegetable garden is important because it adds to the beauty and hence value of the farm,

makes it look and feel more home-like and comfortable, fills the cellar and larder with means of comfort. It moreover cultivates the tastes and appetites of the farmer and his family in the right direction, and inspires a cultivating disposition in them. It has a refining and informing tendency, is an evidence of intelligence and culture. As the traveller passes along the road he makes his estimate of the people by the evidences of culture and refinement he sees in and about their homes. Perhaps nothing is a stronger evidence to his mind than a well made and well filled garden. Then let gardens be as plenty as farms.

HOT BEDS---HOW MADE.

Farmers like other people are fond of early vegetables. But it is too generally the case, that they neglect to raise them. People in the city will have the earliest to be obtained and willingly pay exorbitant prices for them.

Farmers could raise, even in the hot bed, the earliest vegetables, at very little cost. The hot bed requires attention early in the season, when there is but little other work on hand, and consequently could be attended to, about as well as not. We propose to inform our readers how they are made.

SELECTION OF GROUND.

The ground upon which a hot bed should be made, should have a southerly or southeasterly inclination. It should be fully exposed to the sun and out of the shade of trees, buildings, &c. A dry place is preferable—where water will not stand in pits one or two feet in depth, after a rain.

THE FRAME AND SASH.

The frame or box which supports the sash is generally about 4 1-2 or 5 feet wide and may be made of any desired length. The frames are generally made so as to be covered with from three to five sashes, each sash being commonly about 40 inches wide, and four and a half or five feet long. The frame may be made of inch plank—the side exposed to the north being 6 or 8 inches higher than the southerly side, so as to have proper slope to the sun.

The smallest sized glass should be used in the sash—certainly not larger than 7 by 9. The smaller the size the better, as a small pane of glass is not so liable to be broken as a large one and can be more cheaply repaired. No cross bars are used in the sash—the panes of glass overlapping each other about a quarter of an inch, like the shingles of a house, and resting on bars that run lengthwise of the sash, just the right width for the panes to rest on two bars. The bars upon which the panes of glass rest should be an inch and a half or two inches wide.

PREPARATION OF THE BEDS.

It is a good plan to dig a pit from one to two feet deep where the bed is to be made, although this is not always done. Over this pit must be placed the frame. Now fill in half full with some fresh horse stable manure which has not been exposed to the rains, and which, within the last two weeks, has been turned over two or three times. If the manure is rather dry, water should be sprinkled upon it. The sashes of glass may now be placed upon the bed frame and the bed left for about 12 hours when air should be given it, and it should be closed again. In three or four days the soil may be put on this bed of manure. Fine garden mould should be used, and it should be spread to the depth of six or eight inches evenly over the bed. In one or two days the seed may be sown. If sown as soon as the soil is put on, the soil is said to burn so as to destroy the germ of the seed. Therefore air should be given to the bed once or twice before the seed is sown. After the seed is sown the bed should be sprinkled with water from the watering pot daily till the plants appear. Air should be given daily when the weather will permit so as to make the plants strong and hardy. The bed should be kept at the temperature of about 60°. The outside of the frame should be banked up with manure so as to keep the bed warm. In cold, freezing weather the beds will need to be protected by being covered with mats or straw.

Onions, Beets, Carrots, &c.

There is little difference in the yellow and red onions—the latter is, however, the best keeper. The Bessano and Turnip Beet early varieties; the Long Blood the best for winter. The Orange Carrot is the richest, and best for the table; the long white the most convenient for harvesting large crops. The *Oval* is the best radish, the long Scarlet the best of the more common sorts—the short or turnip radish is good for early crops. Much depends on the seed of the radish, large quantites being sold that produce only hard, stringy roots.

The best soils are medium loamy, made rich by well-rotted compost, made from yard manure—which is the best fertilizer for general use. The carrot needs especially a deep soil. The radish does best when grown in nearly clear sand, kept quite moist by frequent and copious waterings.—*Country Gentleman.*

The Apiary.

[Written for the Valley Farmer.]

BEE HIVES.

The fact that myself and a few neighbors, the past summer, have furnished the New York market with over 20,000 lbs. of box honey, being noticed and extensively copied in the newspapers as something remarkable, with my name and residence given in connexion, has brought a flood of letters upon me, enquiring into my system of Bee Culture, and particularly what kind of hive I use. The impossibility of answering in detail has induced me to simply point out the means to obtain *full* particulars.

As the *kind* of hive is considered by some people the one all important point and talisman of success, I could not perhaps suit the readers of the Valley Farmer, better than to devote a chapter to the subject, and let them understand, what few would expect, that the whole of the above amount was obtained by a very simple process, without the aid of a single patent! Allow me to remark still further, that these results were not reached by merely putting bees in a simple hive, any more than a farmer with suitable soil would realize his crop of corn after simply planting it, without any further attention.

Several considerations make the kind of hive we use, somewhat important. When profit in bee culture is the *only* object, of course the cheapest route to reach that point, will be adopted. We wish to bring about certain results:—what the means are, I propose to say, and appeal to the above results for authority to say it. If we can accomplish, with twenty-five cents expense, the same ends that we could with five dollars, we save just the difference. But if a person wishes ornamental hives, to correspond with other parts his of establishment, of course, there can be no objection; but in no case should it be charged to the bees as a necessary outlay. I shall describe one in its simplest form, that will produce the best honey for market.

First, use sound material, and not plane it either inside or outside, except to make close joints. Cut inch boards 14 inches long—have two 12 inches wide, and two 14 inches wide, this will make the body of the hive just 12 inches square inside, and 14 deep, and will contain about 2,000 cubic or square inches. This shape suits me best, yet it is not important, if extremes are avoided. The *size* is important. There should be room for brood, and storing a winter supply of honey for the bees in *one* apartment. If this is too small, an insufficent supply will be stored; if too large, more than is needed will be in this apartment, which ought to be stored in the boxes as profit. All the dollar and cent interest, with me in the business, is centred in this point—*box honey.*

I said the size should be 2,000 inches; I would qualify it by the degree of latitude south of 40° where the winter is comparatively short, a less quantity of stores will be needed, consequently a less size will do. But here another important point must be kept in view; there *must* be room for all the brood-combs needed by the queen, otherwise they will run down for want of bees. From several experiments 1,800 inches is indicated as all the room necessary for *that* purpose. Perhaps for your place or any south of 40 deg. the latter size would be the proper one for profit. I could not recommend less than a foot square (1728 inches) for any section. For the top of the hive, get out a board 15 inches square, plain the upper side, and rabbet out the upper corner on every side one inch wide, and near half an inch deep. Make eight or ten inch holes through this, in two rows, say three inches each side the centre. These holes should be uniformly distant, because it is necessary to have a rule or guide for making other holes in the bottom of glass boxes to match them—a pattern for marking is very convenient. This piece is now ready to be nailed on the hive. Make a small passage for the bees, either at the bottom, or part way up the front side; or what is better, both places. These, as a passage, will afford abundant room. In very hot weather the front side of the hive should be raised half an inch. Put sticks across the hive to assist in supporting the comb and this part is ready. The holes to o-sed until the bees have nearly filled the hive, when the boxes are to be added.*

The two boxes to fit such hive should be 12 1-2 in. long by 6 1-4 wide, or if four are used instead, 6 1-4 square—sides glass, top and bottom wood. To begin, take thin boards and plain them down to one fourth of an inch, cut them to the proper length and width; in the bottom make holes to match those in the hive. The posts at the corner are five inches long and five eights square, with a narrow channel sawed in two sides of each, one fourth of an inch deep, to hold the glass. The box is set up by putting a small nail through each corner of the top into the ends of the posts. The glass is then slipped into the channels, (glass 10X12 will cut into pieces for

*See directions in July number as to time, &c.

this purpose without waste.) Then stitch fast to the top some pieces of new white comb an inch square as a beginning for the bees—one edge dipped in melted bees-wax and applied before cooling will hold them. Now nail on the bottom and set away for use. A cover for these glass boxes is necessary—13 inches square *inside* by seven deep; this will fit the rabbeting of the hive top exactly and shut out all the light. I have here given a full description of all that I consider *needed* for a bee-hive. Those who wish can have the outside planed, painted, mouldings, dentals and any amount of ornaments attached—but preserve the *principle*.

M. QUIMBY, Author of
"Mysteries of Bee-Keeping Explained."
ST. JOHNSVILLE, N. Y.

The above directions for making bee hives, are in answer to the request of a subscriber, contained in the September number of the Valley Farmer. As a successful bee culturist, we believe Mr. Quimby has no equal in the United States. The amount of honey he has sold the past year is almost fabulous. From his unparalled success, we were induced, two years since, to visit his Apiary and witness its management for ourselves. There are many things, however, to be learned in the treatment of bees, besides the making the hives, that experience alone can teach. From a peculiar fondness for the business, Mr. Q. has devoted almost a lifetime to it, and the result of his experience he has embodied in his "Mysteries of Bee Keeping Explained," a work of 376 pages, containing the whole system which he has successfully practiced for twenty-eight years. This work is sent by the auther by mail free of postage, to any one who will send to him $1 or its equivalent in post office stamps. Address M. Quimby, St. Johnsville, Montgomery county, New York.

The Bee Moth.

It is well known to those who keep bees, that one great hindrance to success, in many cases, is the inroads of an insect or worm known as the bee-moth. Now, by experiment, I think I have discovered a way to protect the bees from their enemy. And as some of the readers of the "Dollar Newspaper" may think my plan worthy a trial, I give it, hoping it may prove a benefit to all those who may do so. Take a tub, or any large open vessel, fill it nearly full of water, put in it a quantity of old combs, place the vessel near the bees. The millers that deposit the egg from which the moth is hatched, are attracted there by the strong scent arising therefrom; they hover around the trap and are continually alighting or falling into it, out of which they cannot extricate themselves.

The Poultry Yard.

Best Breed of Hens---How to make them lay in Winter.

We have received a note from one of our subscribers requesting us to inform him which is the best breed of hens and how they should be fed and treated so as to obtain eggs from them during the fall and winter.

It is a very difficult matter to decide which is the best breed. Nearly every variety has its own particular admirers. A dozen men, if asked for their opinions, would recommend nearly as many different breeds. Our opinion is that there is no better fowl than a cross of the Brahma Pootra and Dorking. They are excellent for the table, and cannot be surpassed as layers.

But in our judgment, more is dependent upon the treatment of fowls, in order to obtain eggs from them, than upon the breed. No hens half starved or exposed to the inclemencies of the weather, during winter, can be expected to lay. Hens need, and must have, comfortable quarters, if we expect anything from them in the winter. Here is one of the greatest and most prevalent faults among farmers in their management of fowls. No suitable roosting place is provided for them. The naked, leafless trees too often furnish them their only shelter. Here they are exposed to the cold winds of winter, and frequently so strong is the wind that the night through, they have all they can do to maintain their foothold. The chilling snow and sleet and rain fall upon them. Can hens under such treatment be expected to lay? It requires all of their vital power to protect themselves against the blasts of winter, let them be fed ever so well.

The first step in the proper treatment of fowls is to furnish them a warm and comfortable house of some kind. In this should be apartments for laying, setting and roosting. They need a variety of food. All kinds of grain are good for them. They should not be confined to one variety. In the winter they should be supplied with flesh of some kind. In summer this is not necessary if they are not kept in too great numbers and are permitted to run at large as they can then obtain worms, bugs, grubs, &c.

They should also be daily supplied with pure water. Dry bones and oyster shells pounded fine are good for them—gravel is also requisite.

If hens are treated as we here recommend, the farmer may expect his hens to lay during the winter months.

Stock Raising Department.

DEATH OF CELEBRATED HORSES.

Black Hawk.—This famous horse, owned by David Hill, of Bridgeport, Vt,, died a few weeks ago at the age of 23. He was foaled in 1833, in Greenland, N. H. His sire was "Sherman Morgan," his grand sire "Justin Morgan," the celebrated progenitor of the Morgan horses. His dam was a half blood English mare. At four years old he went to Lowell, Mass., and was used as a family horse until 1844, when Mr. Hill purchased him, who soon made him famous. Black Hawk was a little less than 15 hands high and weighed about 1000 pounds. He possessed the character of the Morgan horses in a large degree. He was symmetrical, muscular and compact in form, with great activity speed and endurance, qualities which he is said to have imparted in a large degree to his progeny. He could trot his single mile in two minutes and forty seconds. On the Cambridge track he won a match of $1000, trotting five miles inside of sixteen minutes. Afterwards he won a two mile race in 5.43. He was the sire of several of the fastest horses in the country, among which is "Ethen Allen," the fastest trotting stallion in the world. His owner received for his services over $40,000. He proved himself one of the most valuable horses in the world.

Black Warrior.—This celebrated war-horse died not long since in New York, at the age of 28 years. He is said to have served through the Florida war and the Mexican war; to have marched all over the country, swam all the rivers between St. Augustine, Florida, and Mexico, to have chased indians, horse thieves, robbers and rascals, as well as foxes, deer and buffalo, at all the military posts of the far west. He was in nine battles, and was twice wounded.—He was often ridden by great men. He has carried Kossuth and President Pierce. On great occasions he was always *the* horse. He was never in harness, but was one of the most graceful and powerful saddle horses in the world.

"His course is run,
His errand done."

Peace be to his ashes.

Such horses as the above are of immense value as stock horses. The country needs more of them.

Corns on Horses.—It is said that the surest cure for corns on horses, is to take off their shoes and turn them out. To cut them out is a doubtful experiment.

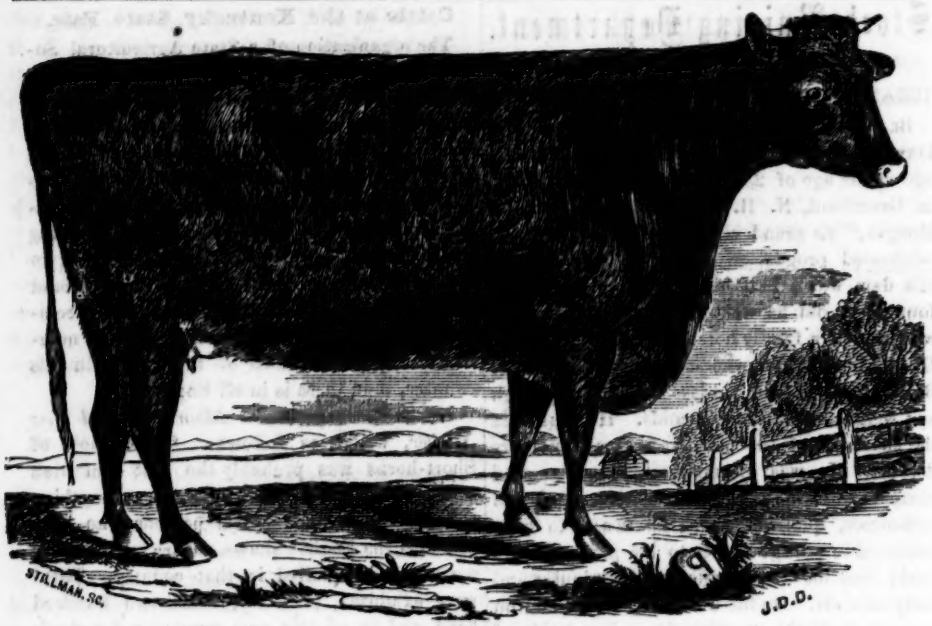
Cattle at the Kentucky State Fair.

The organization of a State Agricultural Society and its exhibition, we are glad to see has attracted visitors from other States, who hardly knew how to estimate the value of the Short-horns in this country; for in no part of the world is this noble breed more perfectly developed, showing all its good qualities, than in the climate and upon the soil of Kentucky. Nothing has been spared by the Kentucky breeders, to secure some of the best animals that England has ever produced, and it has been said by competent judges, that there is now a larger number of superior animals of this breed, in this country, than there is in all England.

Mr. S. P. Chapman, in *Moores' Rural New Yorker*, writes as follows: "The show of Short-horns was probably the best exhibition ever made in the world. I never saw anything like its equal, and several persons who have attended the English shows, assure me that they never saw it equalled in that country. There were exhibited, probably, some two hundred head, and in all this vast number not a *single* animal could be selected as ordinary. They are all entitled to a very high rank as first class animals.

"To give you a little idea of their uniform excellence, I will mention one circumstance: I was honored as one of the judges in this department, There were twenty three cows shown in the ring. We concluded to send the *best* to one side of the ring, in order to reduce the number to select the prize animals from. When we had got round we found that we had sent across twenty-one out of the twenty-three animals. The competition was very close nearly all through, in some instances, so close indeed, that a comparison of animals *side by side* could only decide their merits."

A Wrinkle about the Age of Horses.—A few days ago we met a gentleman from Alabama who gave us a piece of information in regard to ascertaining the age of horses, after he or she has passed the ninth year, which was new to us, and will be, we are sure to most of our readers. It is this: after the horse is nine years old a wrinkle comes on the eyelid, at the upper corner of the lower lid, and every year after this a one well defined wrinkle for every year over nine. If, for instance, the horse has three wrinkles, he is twelve, if four, he is thirteen. Add the number of wrinkles to nine, and you will always get it. So says the gentleman, and he is confident it will never fail. As a good many people have horses over nine it is easily tried. If true, the horse dentist must give up his trade. —*Southern Planter.*



RUBY.

The property of R. W. MUSGRAVE, Esq., of Sulphur Springs, Crawford County, Ohio.

Red; bred by M. L. Sullivant, of Columbus, Ohio. Calved Dec. 4, 1851; got by President 2d, dam, Red Jessica, by Red Jacket (143), grand dam, Jessica, by Talleyrand, (2728); great grand dam, Jessica, by Whittaker, (2836); gr. gr. gr. dam, imported Rachael.

Pedigree of President 2d, sire of Ruby, &c., &c.—Got by President, (832); dam, Isabella, by Rover, (931); grand dam, Countess, by imported Count Halley, (1855); gr. gr. dam, imported Teeswater, by Belvedere, (1706); gr. gr. gr. dam, by a Son of Princess, bred by Mr. Wynard; gr. gr gr. gr. dam, by Mr. Jas. Broun's Red Bull, (97).—*English Herd Book.*

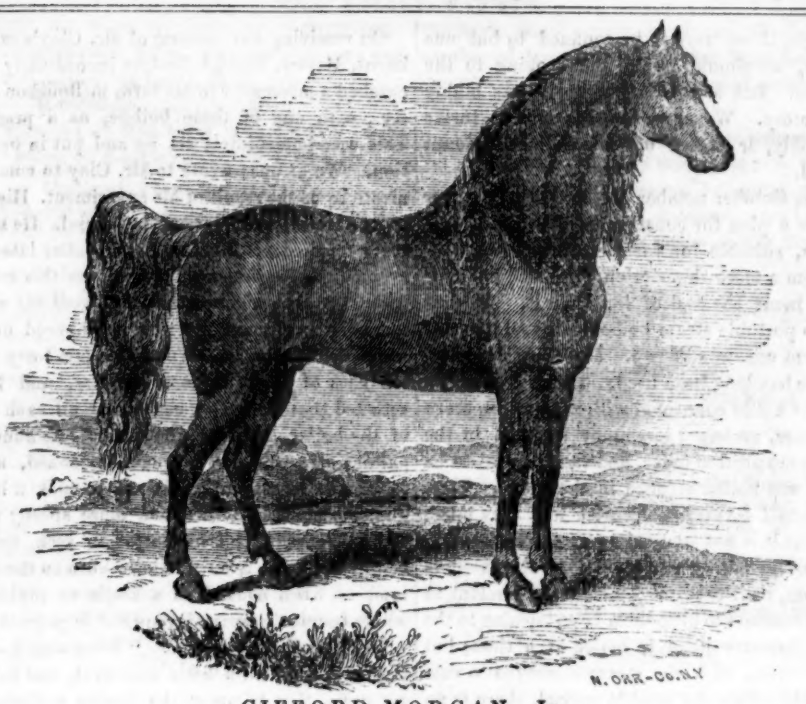
DAIRY PROFITS.

The farm and dairy belonging to Wm. White, of Cayuga Co., N. Y., according to the *Country Gentleman*, foots up as follows: From 14 cows, all native breed, and managed in the ordinary way, was sold 2,920 pounds of butter, at 25 cents per pound, which amounts to $730. From the buttermilk, after deducting the value of the grain fed, pork enough was made to come to $163; 14 calf skins $8,75,—total $901,75, or an average of $64,41 per cow. His farm consists of 110 acres, which cost, two or three years ago, $25 per acre. He sold from it last year, $1000 worth of produce, the result of the labor of himself and wife alone.

We mention the above as a special encouragement to dairymen. Such results can be produced here as well as anywhere. Who will try it?

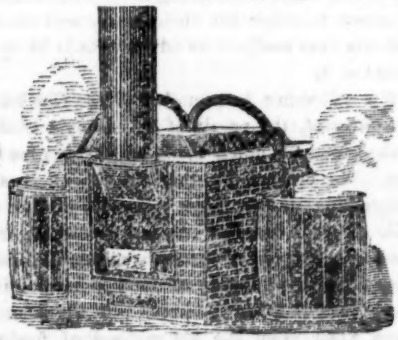
LITTLE THINGS PAY WELL.—It is written that "A merciful man is merciful to his beast." We take it to be a positive truth. Such mercy is good for man as well as beast. It is related of Rev. Sydney Smith, who had a care for the comfort of everything around him, that he used to say, "I am for all cheap luxuries, even for animals; now all animals have a passion for scratching their back bones; they break down your gates and palings to effect this. Look! there is my universal scratcher, a sharp-edged pole, resting on a high and low post, adapted to every height, from a horse to a lamb. Even the Edinburg Reviewer can take his turn; you have no idea how popular it is. I have not had a gate broken since I put it up. I have it in all my fields."

TOMATOES FOR COWS.—A writer in the *South Carolina Agriculturist* gives the following experiment: For two or three months we had half a bushel or three pecks of tomatoes boiled with the same quantity of squashes each day and given to four cows. The quantity of butter exceeded the usual average; but the most striking result, and that which we had not anticipated, was the beautiful yellow color, and the delicious flavor imparted to the butter by the tomatoes.



GIFFORD MORGAN, JR.

Was foaled May 23d, 1850, the property of Elijah Judson, of Woodbury, Conn. Sired by Gifford, g sire, Woodbury, g g sire, Justin Morgan. Dam, Ribbon Back, by Young Black Hawk; g dam was taken from Vermont to Conn., in 1825, and was said to have been sired by Justin Morgan. Gifford Morgan, Jr., is a jet black color, a little under 15 hands high, and weighs about 1,100 lbs. Is a free, pleasant traveler, and moves in good, bold style. Is very pleasant in his temper, perfectly tractable, and is a fine horse. He is now owned by Mr. H. B. Munson, and is kept at Keokuk, Lee county, Iowa.



Scott & Hedges' Patent Portable Steam Agricultural Boiler.

The subject of preparing food for farm animals is one upon which we have had much to say, and we intend, from time to time, to discuss its importance to the farmer, until the advantages are fully understood and duly appreciated.

When the country was sparsely settled, and corn was worth but *ten* or *fifteen* cents a bushel, it was hardly considered worth the cost of gathering to feed to fattening animals, and they were often turned into the fields to eat it from the stalks where it grew. But the improvements of time have brought about a change—railroads are opened to every section of the West—corn, the great Western staple, finds a ready market at greatly advanced prices. By any improvement in the mode of preparation or in feeding, so that grain can be saved at a less cost than it can be grown, it is not only the interest of the farmer, but his duty to adopt it. Farmers, generally, are among the last to abandon long established customs for new and untried experiments, and hence improvements among them are slow in coming into general use.

Cooking food for farm animals has long been a hobby with us. Twenty years ago the present winter, we constructed steam works and fed and fattened five hundred head of hogs upon steamed corn and roots (sugar beets and turnips). Portable mills were not then in general use among the farmers, and we steamed our corn in the ear. This required more time, and with less advantage than if the corn had first been ground,

although, if we were to be confined to but one process, we should prefer the cooking to the grinding. But as it was, the result was highly satisfactory. We never before saw hogs thrive so rapidly, or fatten on so small an amount of food.

In the October number of the *Valley Farmer* we gave a plan for constructing a steaming apparatus, suitable for farmers of any extent.—But from a mere description, few will be induced to incur the cost of building it. At that time no portable steam boiler, adapted to general farm use, was known. Mott's Agricultural Furnace has long been used. This was simply a boiler or kettle connected with a cast iron stove or furnace, arranged to employ the heat in the most economical manner, and the material to be cooked was boiled at once in the kettle. This, upon small farms in the east was very much used, but it is not adapted to extensive feeding, besides, the *boiling* process is subject to serious objection, as it requires a constant attendant to stir the contents to keep them from burning to the kettle, however little is boiled at a time; but with a boiler, with the steam conveyed to vats or tubs in which the meal is cooked, there is no danger of burning, and it does not absolutely require any one present, only occasionally to replenish the fire.

We have always contended that unless the meal was to be cooked, it was of the first importance that it should be ground fine, and hence we have generally advocated the use of the mill stones in preference to the iron crushers.

We have frequently urged upon Mr. Hedges, a most ingenious mechanic, of the firm of Scott & Hedges, of "Little Giant" notoriety, that if he would get up a steam boiler such as would meet the present wants of the farmer, it would prove of more general benefit to them than any invention of the age. The saving by grinding corn with the Little Giant, will not exceed 20 per cent., but if the same meal is thoroughly steamed, the gain will be equal to 50 or even 75 per cent., as is demonstrated by Mr. Clay's experiment, detailed in the last number of the *Valley Farmer*. We are glad to learn that this enterprising firm have succeeded in perfecting a steam boiler, most admirably adapted to the popular wants. This is as portable as an ordinary stove, and may be transported to any part of the country. It is set in an ordinary brick furnace in such a manner as will most perfectly economize the heat. The steam is conveyed from the boiler to tubs or vats through a flexible Indiarubber pipe, where the cooking is done.

On receiving our account of Mr. Clay's experiment, Messrs. Scott & Hedges immediately dispatched a messenger to his farm in Bourbon Co., Ky., with one of these boilers, as a present. This was immediately set up and put in operation. We at once wrote to Mr. Clay to communicate to us the result of his experiment. His answer was received after one day's trial. He says: "We finished setting the steam boiler late last evening, and commenced operations this morning. The arch was new and damp and our wood not very good, consequently we labored under some disadvantages. We cooked one forty gallon cask of mush in forty minutes, and I am satisfied that with two casks, one on each side of the boiler, and with good wood ,one hundred gallons of mush per hour can be cooked, after the steam is up. If you want to cook a large quantity of food it is much more speedy than any aparatus that I have used or seen, and of course the meal is not liable to burn to the bottom, as when cooked in a kettle or cauldron, where frequent stirring is required to prevent it."

Mr. Clay further states: "We steamed some fodder and added a little salt to it, and fed to my cows, they trimmed the blades entirely off and ate many of the whole stalks. We then cut some short and steamed them in the same way and gave to my cows and horses, and they ate it all, although it was killed by frost before it was matured in full."

Many of the German dairymen in this country are in the habit of steaming their meal and hay or straw together for their cows, and no one who has ever realized its advantages is likely to abandon it.

We notice in a late number of the Cincinnati *Commercial*, the result of seven day's trial of cooked food for milch cows, which we give below. We understand the experiment is still progressing, and we hope to receive the full result. But in order to render the whole trial complete, the gain of the cows should be ascertained and the quantity of food consumed in a given time, and then compared with the quantity eaten when upon the old method of feeding. These are interesting experiments, and we should be glad to receive the result of any such that are accurately carried out.

The saving already to the Western farmers by grinding their corn, is many thousands of dollars, and if the same meal was cooked, we are convinced the saving would be *three* times as great, and in the agregate would amount to millions of dollars annually.

One of these boilers can be seen at any time,

and its operation fully illustrated to any one who will call on the agent, H. B. Howard, at the Reaper Warehouse, on sixth street, Louisville, Kentucky, or at James B. Chadwick's Little Giant office, 63 Locust street, St. Louis, Mo.

Cooked Food for Cattle.

"The advantages of using cooked food for cattle can be easily verified by experiment, that it must soon be generally adopted by cattle growers and dairymen. The food thus given is more easily and perfectly digested, and will consequently produce a much larger amount of good meat and pure, rich milk than if given in any other form. A well informed milkman who has used the aparatus manufactured by Messrs. Scott & Hedges, for cooking food for cattle and hogs, sends us the following:

"'I commenced the use of your steam boiler on the 7th inst., at which time my ten cows gave 60 1-2 quarts. My daily feed was 10 buckets of middlings and corn and cob meal, about equal parts.

Cows gave in the commencement	60 1-2	qu'ts
On the 8th they gave - -	66	"
" 9th (reduced food 2 buckets)	69 1-2	"
" 10th they gave - - -	71	"
" 11th " - - - -	73	"
" 12th " - - - -	73 1-2	"
" 13th " - - - -	76	"
" 14th " - - - -	77 1-2	"

My milk has improved in quality and my cows in appearance. I shall make further experiments in feeding the corn and cob meal separate as also with clear cob meal, and report again in about ten days.'" C. M. Davis, Milkman.

Cincinnati, Dec. 15, 1856.

"From this it appears that the gain in 7 days was 17 quarts, being 28 per cent, gain in milk, with a saving of 20 per cent. in food. The milk produced from such food is altogether different both in quality and appearance from that yielded by cows fed on distillery slops."

DEMAND FOR SHORT-HORNS.

From various causes, an unusual number of Durham cattle have been sold the past season. Besides the regular annual sales of the most prominent breeders in Kentucky, quite a number of extensive sales of stock belonging to the estates of deceased persons and to persons who have removed from Kentucky to more Western States, have been thrown into market, and have been scattered widely over the country. We are glad to see the growing disposition on the part of the western farmers to improve the character of their stock. Thousands of dollars may thus be added annually to the product of the country by breeding from improved stock. It is a waste of time and labor, and a still greater waste of food, to rear a class of animals that at full maturity are mere dwarfs in size and weight, compared with those of the improved classes, while at the same time the meat is of an inferior quality. Notwithstanding the large number of improved cattle that have been sold the past season in Kentucky, good prices generally have been realized.

The following are some of the animals with the prices for which they were sold:

The sale of Short-horns belonging to the estate of Benj. Warfield, deceased, near Lexington, Ky. The sale took place on the 27th day of Nov. 1856.

COWS.

Furteen cows brought $3,265—average, $233 33 each, as follows:

Cherry 2d—Eight years old, bought by J. M. Stone, Scott Co., Ky. Price $400.

Adriene—Five years old, B. Warfield, Fayette Co., Ky., $370.

Clara—Three years old, E. N. Warfield, Cooper Co., Mo., $150.

Sarah—Seven yearsd old, J. M. Stone, $200.

Duchess—Four years old, J. M. Stone, $400.

Miss McCaw—Three years old, J. Curd, Fayette Co., Ky., $310.

Bracelet—Three years old, J. Smith, Fayette Co. Ky., $175.

Ruth—Four years old, J. Wasson, Fayette Co., Ky., $195.

Caroline 4th—Ten years old, P. H. Thomson, Fayette Co., Ky., $100.

Mary Clay 4th—Ten years old, W. Warfield, Fayette Co., Ky., $100.

Kitty Morgan—Five years old, E. N. Warfield, Cooper Co., Mo., $80.

Eve—Four years old, L. Prewett, Fayette Co., Ky., $175.

Tulip—Three years old, L. F. Hays, Fayette Co., Ky., $155.

Lady Fairy—Imported in 1853, Dr. R. J. Breckenridge, $455.

HEIFERS.

Twelve heifers brought $2355, averaging $238 each, as follows:

Maria Hunt—Thirteen months old, B. Warfield, Fayette Co., Ky., $305.

Miss Chilton—Fifteen months old, J. M. Stone, Scott Co., Ky., $250.

Mary Deweese—Twelve months old, B. Warfield, Fayette county, Ky., $310.

Charity—One year old, W. Warfield, $205.

White Beauty—Sixteen months old, W. Warfield, $70.

Alma—Eleven months old, W. Warfield, $150.

Melissa 5th—Four months old, S. J. Sayers, Fayette county, Ky., $380.

Cherry 9th—Six months old, C. Coleman, Missouri, $425.

Lady Fairy 2d—Five months old, W. Warfield, $605.

BULLS.

Eight bulls sold for $1587, averaging $196 each, as follows:

Young Chilton—imported, bought by Dr. R. J. Breckenridge, Dr. R. Dillard and W. and B. Warfield, $650.

Exile—Two years old, Dr. R. J. Breckenridge, and W. Warfield, $300.

St. Albans—Fourteen months old, W. Jones, $28.

Fayette—Five months old, G. C. Hill, Henry

county, K., $80.

Boston—Six months old, S. H. Shouse, Woodford county, Ky., $80.

Fancy Boy—Four months old, G. Smith, Fayette county, Ky., $95.

Herald—Two months old, J. Curd, Fayette county, Ky., $180.

Dudley—Four months old, B. Warfield, $40.

FATTENING SWINE.

The period when farmers pen their swine is now approaching and a few words thereon will have at least the feature of appropriateness.

The first requirement to success in this department of farm economy is—a good *anatomical structure* on which to build the flesh. Razor breeds shave their owners and the community at large. Long-legged, slab-sided animals may answer for the purpose of "making good time" on the way to the trough, but for filling pork barrels they are totally inadequate.

If a farmer has no other cribs in which to place his corn, two or three pigs of this description will allay any anxiety on that score. Furthermore the only ears to which a hog should run, are ears of corn,—these appendages may give to the donkey a grave look—but on a pig! *Good breeders deliver us?*

Having briefly stated what we do not want, we may as well give our *beau ideal—there is a beau ideal in the form of a pig*—and we doubt not it would be an object of as intense interest, when well portrayed by the brush or the chisel, as anything in the higher walks of art.

First, swine should be small boned and compact; the back uniformly broad and rounded along the whole body. The touch on the back firm but springy; legs short; loin and breast broad; neck short, thick and deep; cheeks rounded and well filled out; face not dishing but straight; nose fine; eyes bright; ears well set, thin and soft to touch; head small in proportion to body.

This is a description when fat—and can only be manufactured by getting the right material to construct it with. Get a pig of this formation—call the breed what you like—and you will have profitable porkers.

The pig is omniverous—will eat anything and everything that is edible. Regularity is the prime object. Give them their meals at stated periods—not fill them one day and starve them the next.

We have read of those who followed the last mentioned plan, but it was for a purpose—to "get a streak of lean and a streak of fat," and one thing their hearts desired they got—the lean streak. Judgment ought to be used in this matter. A hog can squeal off an ounce of fat in a short time.

Those having a taste for that kind of music may indulge, "we'll none of it," Give them no more food than they will readily eat from the trough, over-feeding is almost as much of an error as too little. Clean water will be an acquisition to the sty—if a running stream could be conducted into their feeding quarters they would derive much benefit therefrom.

Let there be a variety of food, at least in the early stages of fattening. Corn, potatoes, peas beans, parsnips, pumpkins, carrots, cabbage, turnips, etc., will all be found useful. In feeding roots it will be well to mix two or more varieties—pigs are sometimes dainty in taste—what one relishes another may not care about.

If you have any number of swine a steaming apparatus will be found both convenient and economical. It prepares the food to be more readily acted upon by the digestive organs, and whatever will tend to this object, diminishes the necessity of an expenditure of vital force to its accomplishment, and of necessity enables the animal to thrive more rapidly upon a certain quantity. Let the food be given warm at the temperature of the body. Cold or frozen food in cold weather must from the nature of things, be attended by a loss of energy and vitality on the part of the animal to which it is fed.

Their bed, as well as board, is a matter of consideration. Plenty of straw or coarse hay should be given them. It will pay better in the pig-pen than to sell it in the market.

Keep your pigs clean. Pigs as well as children will exhibit their bringing up. Unclean swine are the victims of a perverted taste—nature never made them thus. "As dirty as a hog" is an epithet often applied to those slovenish in matter and manners, and inferences may be rightly drawn when hogs *en masse* are included—but as far as yours are concerned if it means anything, let it be that a man as clean as your swine would be a respectable looking individual.

A hog whose rearing has been what it should, will never forget his education, will always walk in the way he should go, and on points of principle will oft-times shame his possessor.— *Wool Grower and Stock Register.*

SAVING BACON.

The English never smoke their bacon. They say

> "Oh the trouble folks have taken
> To smoke and spoil their bacon."

The Canadian Agriculturist taking the same view, says that curing bacon is like the Irishman's mode of making punch. He said: "Put in the sugar, then fill it up with whisky, and every drop of water you put in after that spoils the punch." Just so with curing bacon; after being properly salted and pepered at the hock end, every drop of smoke you put about it spoils the bacon.

Another mode of saving bacon has been given by a correspondont of the N. E. Farmer. He says he was entertained at the house of a friend and at dinner he had reason to compliment him on the excellent quality of his bacon, and inquired to know his method of preparing and preserving. To our surprise, says he, we were informed that that portion of our meal was cooked eight months before. He stated that it was his practice to slice and fry his bacon immediately on its being cured, and then pack it down in its own fat. When occasion came for using it, the slices slightly refried had all the freshness and flavor of new bacon just prepared. In this way our friend had always succeeded in "saving his bacon" fresh and sweet through the hottest weather.

Horticultural Department.

THE WESTERN APPLE TREE BORER---Buprestis, or Snapping Beetle---Chrysobothris Femorata, Fabricus.

This is an insect, which in certain localities and under certain circumstances, is frequently very destructive to our apple trees in the West and South-west. It has been noticed in several of our Agricultural and other publications, but the true cause of its attacks on fruit trees, we have never seen explained. The habits of this insect we have made the subject of close investigation for a number of years, and we have never known it to be found in a healthy tree. The *cause* of its attack is a matter of no small importance to the Western fruit grower; for this is destructive to thousands of trees, even if they are not visited by the borer.

In former numbers of the *Farmer*, we have alluded to the causes which prevent our success in the cultivation of the finer varieties of the cherry. These causes in certain soils and under certain circumstances, operate to a greater or less extent to the injury of the apple tree.

Apple trees planted upon *flat*, *wet* land, or in a *rich*, *tenacious*, *moist* soil, upon rolling land, frequently grow with great luxuriance. The wood of these trees, when vegetation is checked by the fall frosts, is frequently immature, and is filled with unelaborated sap. During twenty years residence in Kentucky we have never known a winter that the mercury in the thermometer has not fallen, several nights, from 3° to 8° below zero. These nights are frequentiy succeeded by a bright, warm sun the next day, that suddenly thaws this excess of sap upon the side of the body of the tree, the effect of which ultimately proves fatal to that part of the tree. The following spring it is found that the side of the tree exposed to the most direct rays of the sun has become diseased, and that the bark has separated from the wood. The vitiated condition of the sap at this point, in the month of May, attracts the parent of the borer, where it deposits its eggs upon the bark. From these eggs the borers are hatched. These eat their way directly through the outer bark and then feed upon the sapwood and inner bark of the tree; and frequently, by the end of July the entire surface of the diseased side of the tree will be eaten over by them.

At the end of summer the worm has nearly arrived to maturity. It now eats its way upward into the body of the tree, where it remains to undergo its transformations, ready to emerge in the spring in the form of the perfect insect, and again to deposit its eggs and perpetuate its race.

The period when the trees are most liable to be thus affected, is when they are making the most vigorous growth, generally from three to five years after they are planted.

Some varieties of the apple are more rapid growers than others and mature their wood less perfectly. These are more susceptible to injury from the frost and sun than the slower growing, firmer wooded kinds. The varieties that we now remember to have seen most injured by the Western borer, are the Fall Pippin, Porter, Gravenstein, Summer Pearmain and Belleflower. There are probably many other kinds of similar growth equally as susceptible to its attacks.

A. V. Bedford, Esq., near Paris, Kentucky, showed us last summer, in his orchard, a large number of trees affected in this way, some of which were entirely killed. Here we also found cherry trees affected in the same manner by frost and sun, and also attacked by the borer. The soil here is extremely rich and of that character most likely to produce the condition in the tree we have referred to.

Trees from the nursery are also frequently in a condition to invite the attack of this insect. We once discovered them in large numbers in trees taken from our own nursery, some years ago, and have since seen them in others. The cause of its attack in young trees, we think, is owing to too severe pruning at a period near the close of the growing season, which operates against the full maturity of the sap wood.

In July last, we examined the trees of a young orchard planted the spring previous, and found the largest proportion of them almost entirely girdled by this worm, which at this time had nearly attained its full size, and again to-day (Nov. 22) we have examined the entire orchard, and cut off several of the trees at the ground, and on splitting them through the centre found the insect, in some instances, in the *chrysalis*

state, in others, they were unchanged and yet alive, though they appeared, from the dried and decayed condition of the tree, to have lacked sufficient nourishment to bring them to full maturity. Others remained in their cavity at the heart of the tree and were dead. In other trees we found the worms had entirely disappeared, and their last resting places filled with small white grubs. In one of these cavities we found thirteen of these grubs, which are evidently parasites, designed by the Author of Nature to prey upon and destroy other species of insects.

Dr. Asa Fitch, the distinguised Entomologist, of New York, in his report made to the State Agricultural society, which appears in the volunme of the transactions of the society for 1854, describes this borer, which he found in sections of the apple tree sent him by P. Barry, Esq., of Rochester, who had received them from a correspont residing in Hillsboro, Ohio. In these sections of trees, Dr. Fitch found full grown worms, and in one instance the cavity once occupied by the worm was filled with small grubs. These grubs, from the description of Dr. Fitch, are precisely such as we found in the cavity of the tress examined by us. Dr. Fitch, after alluding to the instinct of this borer which prompts it to firmly close up its hole after it, with its borings, in order to protect itself from its numerous enemies which seek to devour it, remarks: "Still this worm is not able to secure itself entirely from those parasite insects which are the destroyers of so many other species of its race, and which, as is currently remarked, appear to have been created for the express purpose of preying upon these species, in ordor to prevent their becoming excessively multiplied. * * * * Among the specimens sent me by Mr. Barry, is one where the worm has been entirely devoured, nothing but its shrivelled skin remaining, within and upon which are several minute maggots or footless grubs, soft, dull white, shining, of a long, egg-shaped form, pointed at the tip and blunt in front; their bodies divided into segments by very fine transverse impressed lines or sutures. They are about one-tenth of an inch long and 0.035 broad at the widest part. These are evidently the larvæ of some small hymenopterous or bee-like insect, pertaining, there can be but little doubt, to the family *chalcididæ*, the female of which has the instinct to discover these borers, probably in the earlier periods of their life, when they are lying directly beneath the bark, puncturing through the bark with their ovipositor and penetrating the skin of the borer, drops its eggs therin, which subsequently hatch and subsist upon the borer, eventually destroying it."

In many of the apple trees examined in the young orchard, we found the sap-wood and the inner bark, for several inches above the ground, had been almost entirely eaten around, and no appearance of the worm remaining. These worms had evidently been devoured by parasite insects, or by wood-peckers, which are often seen busily engaged in seeking out their prey on the bodies and limbs of trees.

We have often seen these grubs or borers in firewood and timber that had been cut in the spring, the fermentating condition of the sap which follows, attracts the beetle which deposits its eggs upon the bark, as in the apple trees.

The form of this borer differs somewhat from any other that we have seen.* Its body is flat and its forward joint is more than twice as broad as any portion of the remainder of its body, which gradually tapers to the end. Its entire length is about three-fourths of an inch. It is of a pale-yellow color. It has a pair of sharp, highly polished, black jaws, with which it performs its work of destruction.

The specimen before us, from which our drawing is taken, is somewhat contracted, but we give it as nearly as possible of the size of the specimens examined last July when in their full life and vigor.

This insect differs from the apple tree borer which has become so notorious throughout New England and the middle States, for its extensive ravages. It is the larvæ of a beetle called

Saperda bivittata.—This insect, so far as we have been able to ascertain, attacks only *sound*, *healthy* trees, of the apple, quince, mountain ash, hawthorn, and and other varieties of the thorn, shad bush, and similar varteties.

Dr. Harris describes this borer as a fleshy, whitish grub, nearly cylindrical, and tapering a little from the first ring to the end of the body. The head is small, horny, and brown.

The parent insect is said to deposit its eggs in the months of June and Juiy. The borer, after having spent its earlier days in devouring the sap-wood and bark of the tree, according to Dr. Harris, "remains two or three years, during which time it will be found to have penetrated eight or ten inches upwards into the trunk of the tree, its burrow at the end, approaching to, and being covered only by the

*We regret that the engraver has made the above cut one-quarter under size.

bark. Here its transformotion takes place."

The habits of this insect, in all other respects, are so nearly similar to the one we have described, that we doubt whether it requires the time to bring it to full maturity that Dr. Harris claims for it.

The trees from which the specimens were taken described above, were sent from the nursery last fall and were only two or three years from the bud or graft, and when planted last spring, there were no apparent evidences of disease or worms about them, and in July the worms were of full size, and some of them were in the crysalis state.

Dr. Fitch, in his report, in referring to the *Saperda bivittata*, alludes to accounts of its destructive effects in orchards in various parts of Illinois, Ohio and Arkansas. We have never yet discovered any evidences of it in the West, and we are inclined to the opinion that if closely examined it will be found to be the insect we have described, and its attacks will be found to proceed from the causes we have mentioned.

THE REMEDY.

The most effectual remedy is to be provided in the nursery. The trees should be so trained as to cause them to head low, not more than two feet from the ground. The lower branches will afford shade for the body of the tree and prevent any injury following the most severe frosts.

When the head of the tree is already formed, the trunk should be protected from the direct rays of the sun by some other means. Mr. Bedford shades the bodies of his trees by setting against them brush or poles, and sometimes by binding them with cloth or straw.

When the insect has attacked young trees, if they are examined early, they may be detected and killed by following their track with the knife.

An application of soft soap, or soap and tobacco to the bodies of the trees soon after the season for the beetle to deposit its eggs, would effectually destroy the young grubs. When the worm has found its way into the body of the tree, it may sometimes be killed by inserting a small wire that will follow its track, as has been suggested in the case of the other variety alluded to, or a small quantity of camphor gum pressed into the holes and then plugged upwith soft wood or wax, it is said will also destroy them.

There should be connected with every *home* a garden of the choicest varieties of fruits ripening in succession throughout the year. It would greatly increase the health and happiness of every inmate.

BLIGHT OF THE PRYOR'S RED APPLE TREE.

The Pryor's Red Apple has long been celebrated as one of the best varieties cultivated in the Ohio Valley. For a long time it stood at the head of the list of market apples, for the New Orleans and other southern markets. Nurserymen in years past were usually in the habit of propagating as many trees of this variety as of all others together. For eight or ten years past the leaf of this tree has been subject to attacks of blight that threaten its entire destruction. The disease first appears on the leaf in the spring and early summer, in the form of numerous small black spots, which gradually increase in size, assuming a lighter color from the centre, until at the verge of the spots it becomes of a bright yellow. As the disease becomes more advanced, a little fibrous tuft issues from the centre of the spots, assuming all the appearance of a *parasite fungus*. The tree ceases to grow and the fruit remains undeveloped and finally falls prematurely from the tree. Trees planted on a rich, dry situation, with proper care and generous culture, are least affected by the disease. We know one orchard now about forty years old, near Louisville, Ky., that has been annually attacked with this disease, and for the last eight years, the branches have not made a growth of two inches in length. In the months of June and July the yellow, sickly appearance of these trees may be seen at a great distance in striking contrast with the lively green of the healthy varieties in the same orchard.

We know one fruit grower residing in Indiana on the Ohio river, who has an orchard of thirty acres of the Pryor's Red apple which has become so impaired by this disease, that he has abandoned it and designs cutting it down. We have observed, in some instances, that the disease has extended to other varieties; among which, we have noticed in particular, the Yellow Belleflower and Carolina.

Until 1855, we entertained serious apprehensions that the disease had become permanent, particularly with the Pryor's Red, and it may still prove to be the case. But in the fall of that year we saw several loads of apples of this variety from Indiana that were as large and as fair as any we had ever before seen. The orchard from which the fruit was taken, we were informed by the owner, had been entirely barren for several years previous in consequence of the blight, but in that year had borne a full crop of good fruit.

We have noticed during the past season, that

the disease has become less disastrous than in some former years, and we still hope that it may pass off entirely, and this excellent fruit be preserved to us for years yet to come. But we have observed that the trees of this variety, for the last fifteen or twenty years, have presented the appearance of an enfeebled physical condition, that would rather seem to favor the opinion entertained by Mr. Knight, and others, of a "limited duration of varieties;" a subject upon which we shall have something to say hereafter.

There are two varieties of the Pryor's Red apple. One is a large fruit, covered with a thin russet, and when ripe assumes a rich, yellowish appearance, with a few stripes of dull red on the side next the sun, and is a considerably richer and a better fruit than the other, which is smaller and is nearly covered and striped with red, with but slight indications of russet. Both of these varieties appear to be effected with this disease.

THE COCHINEAL PLANT.

Cochineal is one of the most valuable insects of commerce. It feeds upon a plant of the cactus tribe, which is cultivated expressly for it by the natives of Mexico, Honduras and other tropical countries. The cochineal is a small insect or bug, hardly exceeding in size the common Lady Bug of our gardens. The colors produced by it are the most brilliant and beautiful. The mordant employed is chloride of tin and cream tartar, and with alum fine carmine ink is produced. The retail price of cochineal in our market is about $1,50 per pound.

The Cochineal Plant grows freely in Florida and in Texas. In the last Agricultural Report from the United States Patent office attention is called to the cultivation of cochineal in the southern portions of the Union. That the insect may be successfully cultivated where the plant will grow freely there is but little doubt and the only question that arises, can the labor be procured to compete successfully with the miserable population of the cochineal countries?

There is no climate or country in the world where the silk worm can be more successfully reared than in most parts of the United States, and yet but little silk is raised here, and the only reason is the population is not sufficiently dense to fill all the departments of labor so as to compete with the labor of France, Italy and China. We have probably had as much experience in the cultivation of the silk worm as any other individual in the United States. A regular succession of crops may be raised throughout the entire season, yielding as firm heavy cocoons of as strong beautiful silk as can be procured in any country, and yet there is but little silk now grown in this part of the country, while on the other hand the *manufacture* of silk where the *machinery* of American skill and genius is employed to do the work is constantly and largely on the increase.

Should Mexico ever come under the dominion of the United States, as it undoubtedly will a some future day, the inhabitants may then be employed to profit in the cultivation of the cochineal

There is another class of plants nearly allied to the cochineal plant, which we believe may be more profitably cultivated in Florida. We refer to the fibrous leaved plants like the manilla used for cordage. Experiments were instituted some twenty years ago in Tropical Florida by the lamented Dr. Perrin, whose life was sacrificed on Indian Key by the merciless savages while engaged in this enterprize.

Out of the many thousands of dollars that the government is now expending through the agricultural department of the Patent office for the introduction of new, valuable plants and seeds, we hope that some of them may prove of important value to our country.

American Pomological Convention.

We propose to give a condensed report from our notes of the proceedings of this body at its late session at Rochester. There was a large number of very intelligent nurserymen and fruit growers present and the discussions were of so general a character that a report of them will be highly valuable to readers in every part of the country.

After the opening proceedings and the election of officers for the ensuing year, (a report of which we have given in a former number,) the society then proceeded to revise the catalogue of fruits. The first subject that came up was

PEARS FOR GENERAL CULTIVATION.

Ananas d' Ete.—Mr. Downing of New York, thought it hardly worth a place in the list. Mr. Buist of Pa., and several other gentlemen, regarded it as one of the best. The President said, with him it was indifferent. It was passed over.

Andrews.—Mr Reid, of N. J. had found it to rot at the core, and keep but a few days.

Lawrence.—Mr. Field, of Long Island and and Mr. Hodge, of Buffalo, both considered it one of the best—had seen none better.

Belle Lucrative.—Mr. Hobbs, of Ky., considered it one of the best. With Mr. Breckman's of N. J., it proved very excellent.

Beurre d' Anjou.—Mr. Hodge of N. Y., had found it always fine.

Beurre d' Aremberg.—This variety led to a long and varied discussion as to its merits; with some it proved good and with others it was a poor grower and a poor bearer. The President stated that it was very much disposed to overbear; fruit should be thinned, and the tree requires high culture. He could scarcely pass the winter without this variety. It was finally disposed of by recommending for it "high cultivation," and placed on the list.

Buffum.—Mr. Hodge found it a fine pear.

Dearbon's Seedling.—Mr. Waring of Pa., thought it insipid. Mr. Ernst of Ohio thought it good when ripened in the house.

Fulton,—Much was said of this variety. Mr. Saul, of N. Y., thought it should not be on the list; it was not of uniform good size; a good pear but a poor grower. So thought Mr. Reid. Mr. Walker, of Mass., said it bore large crops, and the fruit, though small was very good; tree a poor grower. The President had found it to bear large crops. Mr. Barry thought it poor. At the South it was generally considered poor.

After some discussion between Messrs Cabbet, Hovey, Field, Reid and Walker, upon the propriety of revising the list as occupying much time to little purpose, the Society took up the list of

"PEARS WHICH PROMISE WELL."

Adams.—The President observed that it was fair and handsome at Boston.

Beurre Clairgeau.—Mr. Saul wished it placed upon the list for general cultivation. Mr. Ernst objected; his specimens last year were handsome, but not good. Mr. Walker wished it to remain where it was. The President was of opinion that it was of higher promise than any pear that had been introduced within twenty years. Mr. Barry remarked that it would not grow on the Quince, but bears well and early on the pear; had known it to fruit at two years old. Various opinions were expressed of it by a number of other speakers.

Beurre Giffard.—Mr. Walker considered it the best pear of its season. Mr. Buist esteemed it as one of the best early sorts. Mr. Hovey thought it a good fruit but an indifferent grower and shy bearer. Mr. Ramy thought it large beautiful and of the first excellence, indispensable to the amateur, but not likely to be a popular orchard fruit. Mr. Warren, of N. Y., thought it the best early pear that he grew, but it must be picked early; so thought Mr. Berkman, when it was equal to the Rosteizer The President thought that when its qualities were known it would take a high rank.

Beurre Sterckman.—Beurre Hardy and Doyenne Sterckman were considered synonyms, and the Beurre Superfine was also the same. Mr. Hovey entertained a high opinion of it.

Beurre Superfine.—Messrs. Barry, Berckmans and Saul were in favor of recommending it for general cultivation. Mr. Ernst objected as it was not known in the West. Mr. Hovey said his trees were ten years old and had not ripened three pears. It was thought by others too soon to recommend it for general cultivation.

Chancellor.—Mr. Reid considered it better than the Brown Beurre and a good grower.—The President remarked that it was one of the poorest in his collection. Mr. Berckmans had found it one of the best in Philadelphia.

Doyenne Boussock.—Mr. Walker would recommend it for general cultivation. He found it uniformly good on the Pear and a good bearer. Mr. Cabbot also found it to do well on the pear but poorly on the quince. Mr. Hovey did not hesitate to recommend it for general cultivation. The President said it was one of the most beautiful trees in his grounds, the pear and tree were alike beautiful. Mr. Barry thought well of it; it ripened with the Bartlett. Mr. Ernst objected to recommending it for general cultivation as it had not been sufficiently tried in the west. Mr. Buist always found it good. Mr. Walker said this fruit has been cultivated for 20 years and if our friends at the West, are so slow in obtaining new varieties of pears, they must not wait for them, in these days of railroads and telegraphs; after further discussion it was adopted for general cultivation.

Beurre St. Nicholas.—Mr. Walker had long known this pear; it is one of the very highest order, and would recommend it for general cultivation. Other members spoke well of it. It was unanimously recommended for general cultivation.

Deuchesse de Berry.—Mr. Walker suggested the propriety of adding d' Ete, to denote its early ripening, as there is another pear cultivated in France of this name. The President stated that the Sovereign d' Ete was identical. The suggestion of Mr. Walker was agreed to and d' Ete was added to the name.

Howell.—At the suggestion of Messrs, Ernst, Barry, Buist and others, this pear was recommended for general cultivation.

Kingsessing.—Dr. Brinckle said this pear is better of late years than when he first became acquainted with it; it is fine, particularly on quince. Mr. Walker had cultivated it five years and found it one of the very best; it keeps well after ripening; had kept specimens thirty days in excellent condition. Mr. Buist said it never rotted at the core, but commenced rotting outside. [*To be contiued.*]

The Home Circle.

THE NEW YEAR.

We send the greetings of the season—a happy New Year—to all our readers, and especially to our lady friends. A new year does not come every day. and it is well to make the most of it when it does come, and send cheerful and happy greetings among all our friends. It is no time for sadness, but rather for joy. It is a time for hope and good will, hope for the future and good will for the present. It is well for us to begin the year as well as we can. We should put the best foot forward and start right whether we continue right or not. This is a good time for us to put all our households in order, to set everything to rights, to have everything in its place, to have the world square with us and ourselves square with the world. It is a good time to set ourselves in order, for of all things we are most apt to get out of order. We are like modern cheap-made watches and clocks which need setting every day and get out of order every week. The truth is there are too many of us cheap-made. We cost too little care, instruction and discipline. It is with people as it is with watches, if they are well made, well instructed, well raised, they go well. If we are not in order any other time, we should be on New Years day.

It is a good time to make good resolutions, to correct bad habits, to pardon old offences, to square old scores, to renew broken friendships, to forget neighborhood differences, and set our marks for a good year.

We have one happy reflection to-day; we start on good terms with all our readers and contributors. We have enjoyed one year of intercourse with them and not broken friendship with a single one; on the contrary, we believe we have made friendship with them all. We speak for the *Valley Farmer*. Readers, cantributors, exchanges, advertisers, so far as we know are on good terms with us, and we with them. We are just beginning to get well acquainted. We understand each other. We began last year as strangers: we begin this as friends. What is pleasanter than to have many thousand friends scattered all over the country? What is pleasenter than to begin the New Year with wishing them all the happiness our hearts desire they shall realize? So do we commence the New Year.

We have made some resolutions which if health and life are spared we mean to make good. One is, that every number of the *Valley Farmer* of this volume shall be as good as this; another is that this volume shall be as good as the last; another is that we will try our best to make it better, and another, that we will greatly increase our subscription list; and still another, that we will prove ourselves the Western farmer's best friend. Now hear it, all our readers, as we live we mean to keep these resolutions good. We know what we can do. We know our means, we know our writers, we know that the best opportunities are ours: We have got the field, we have got facilities, we have got the heart for the work, we love it and are going to do it by the best lights of the age. We want it to be a friend in twenty thousand households. We want to visit the homes of the great west, all of them. And we want all of our readers to help us in extending our circulation and improving our journal. Men, women and children—all can do us some good. Friends will you try? These are New Year's day reflections and resolutions. These are our greetings. May a thousand blessings rest in every Home Circle where these are read.

A WORD TO OUR LADY FRIENDS.

When we say our lady friends, we mean the female friends of the Valley Farmer. For them we have a word. We would like to have them prove their friendship in the most substantial way. And this is the way we propose; that they make us up lists of subscribers in their several neighborhoods and send them on to us in their own hand writing with the money enclosed. We know many of our female readers can do us much service in this way and do good in their neighborhood besides. The men often neglect their duties, but we know that the women are wide awake for the spread of good. They like to visit and talk and tell all the good things they have heard, and this is all right. Let them visit, and let them talk about this proposition of ours, and see how many of them will carry it into effect. Write the name of each subscriber with his P. O. address in a distinct hand, and address the letter as elseswhere directed.

The best thing to give our enmy is forgiveness; to your opponent, tolerance; to a friend, your heart; to your child, a good example; to a father, deference; to your mother, conduct that will make her proud of you; to yourself, respect; to all men, charity.

ESSAYS ON HEALTH---No. 5.

INTEMPERANCE.

Especially is intemperate eating and drinking two of the great physical evils of our times. In a land of such abundance and a country of such prosperity as ours, the things that gratify appetite are within the reach of all, and when chemistry, craft and cunning, the love of lucre and hilarity; the popular notions of hospitality and pleasure, and the social instincts and customs of community, all combine to tempt the appetite to overindulgence, the evil becomes enormous. Injurious dishes and poisonous drinks multiply. Natural appetite is easily vitiated. The beverages, luxuries, narcotics and stimulents and poisonous drinks and drugs used in community at the call of vitiated appetite, are of themselves enough to plant and nourish the seeds of disease in every frame. The enormous consumption of tobacco and distilled liquors, of spices and condiments, of animal food and especially animal fat, is enough to destroy the stomachs and shatter the nerves of a race a hundred times stronger than ours. The remendy, and only remedy, lies in a temperate use of things good in themselves, and a total abstinance from those absolutely bad. Plain, simple food, coarse and nutritious and simple drinks are alone healthy and useful. No people can be permantly healthy and use any other. Their diet must not only be plain and nutritious, but it must be coarse. Concentrated food is one great evil of civilized life. Rich pastries, gravied meats, spiced fruits, greased vegetables, salted and buttered everything, constitute a diet at once too strong, too acrid, too indigestible for any living stomach. Plainer and coarser kinds of food, more simply prepared, without injurious condiments, would be far better. The simple vegetables of the garden and field, with the invaluable fruit of the orchard, simply cooked, unmixed with the productions of the spice Islands and the swinish tribe, should be the principal food of all people who value health, strength and purity of mind.

COOKING.

The science of cooking is the most practical and valuable chemistry in the world. It is a matter of the first importance to the health of mankind. The master or mistress of the kitchen has more to do with the health of the people than the physician. The cooking stove has more of good or harm in it, as relates to the health of the people, than the medical college. The ignorance of a cook often impairs the health of a whole family. The inattention of the more enlightened members of the family to this most important department of every household, so far as it relates to the health of the family, often leads to disastrous consequences. The dispepsias, rheumatisms, gouts, billious complaints, bowel diseases, and most of the common diseases which so afflict all civilized communities, are due, not a little, to bad preparation of food. Our food should be prepared more with a view to its healthfulness. It should be less stimulating, less concentrated, less acrid, less mixed with vinegar, mustard, pepper, salt, alumn, alkali and oliaginous substances. When nothing comes upon our tables except what enlightened judgment approves; when nothing is admitted into our kitchens except the healthful foods which ripen in all our fields; when as much sound judgement is used in feeding mankind as is used in feeding the blooded stock of the country; whon men rear their children in relation to health, as wisely and prudently as they do their horses; when matronly experience joined with scientific skill and wisdom presides over the kitchen and table, then will rosy health bloom in our homes, and our sons and daughters grow up in beauty and strength, and rejoicing in the life bounding so vigorously in all their veins.

[Written for the Valley Farmer.]

HISTORY.

History is a delightful study, an interesting occupation for the man of leisure, and a pleasant recreation for the man of business. But it is more than this. It is a deeply absorbing theme for reflection and research to him who is imbued with the true spirit of inquiry—not the puerile curiosity which pries into mysteries merely for the pleasure of ferriting them out, but a sincere love for truth, an earnest seeking after the causes which have been exerted in the past ages of the world for its progress and development.

History spreads out before the young a field of experience infinitely broader and richer than the longest and most eventful life could furnish. It opens a school for instruction in wisdom and virtue, by the opportunity it affords of intercourse with the wisest and best who have lived; of contemplating their actions and dwelling amid their lofty thoughts and aspirations.

We are so constituted that association with what is excellent improves and enhances our love and capacity for excellence. Thus while we have studied the lives of the hero, philosopher, moralist or philanthropist, we have been growing in capability, not only for appreciating what is noble and good in others, but also en-

nobling our own sentiments, and increasing our own powers for doing good.

It will be said, the world's history is full of cruelty and crime, and that from the evil we *contemplate*, we shall learn to *do* evil. But the Lawgiver of the Universe has not left us without a warning. The wicked *have not* gone unpunished.

Ever since our first parents came forth from Eden sorrowing, suffering has been the unfailing attendant and consequent upon sin. It may be that the partial knowledge of our short lives does not always make this truth manifest, but History declares it in the downfall of kings and the overthrow of nations. The evil consequences of evil-doing should serve as a warning, while every noble achievment, every sacrifice for the right, should be incentives to draw us into the path of duty.

History is the only impartial umpire of the actions of men. As the aged man, his mental and moral vision cleared from the mists of youthful passion and enthusiasm or party prejudice, sees his past actions and their consequences in a clear light; so the world, in its six thousandth year of its age, estimates more justly characters and events, causes and consequences, than was possible before the smoke of the action in which they were mingled had rolled away. The mists of the ages too, are vanishing before the sunlight of science and discovery. Illustrious examples shine down upon us undimmed by the lapse of time. The glorious idea of the immortality of the great and good, is no fiction of the poets. The marble and the canvass will preserve their names and forms, but it is History alone that makes their *lives* immortal. *It* alone can bring the dead to life and give them speech and action. With each successive generation live anew the great spirits of the past, in the lives of those whom their words and deeds have stirred to action.

The History of the world is not only growing older and longer, but fuller and clearer. Historians may differ ever so widely, critics dispute ever so fiercely, still the face of humanity is set towards truth, and every new light in science, every fresh discovery, whether it be human records disentombed from beneath the heaped up rubbish of the past, or the everlasting records inscribed by the hand of the Almighty deep within the "rock-ribbed earth," are but beacons to guide it onward to the accomplishment of its great work, the solution of that problem to which history holds the key—of the *creation, existence, and development of man.* A.

[Written for the Valley Farmer.]

ADDRESS TO THE NEW YEAR.

Dost thou come, dost thou come, O dawning year,
With a voice of hope and a heart of cheer,
Whispering to the mourning hearts that weep
O'er the graves where their buried treasures sleep—
That to sorrowing hearts you comfort bring,
As well as to Earth a reviving spring?
And the new Year said, "He who rules all things,
'Hath graven his pledge on the tempest's wings,
'That spring, with its verdure and dew and bloom,
'Shall Fail not to Earth; and Calvary's tomb
'Was a pledge to mortals of sins forgiven,
'And a meeting again with our lost in Heaven."

Dost thou come, dost thou come, fair child of Time,
With glory and gladness for summer's prime;
Shall the tree bear fruit and the field bring grain,
Or drouth blight harvest and orchard again?
Shall pestilence breathe on your balmy hours,
Or the song of mirth be heard in your bowers?
And Time answered, "Whene'r the smitten have bowed,
'The bolt hath been drawn from the lowering cloud,
'And the heart that was pierced, yet murmurs all's well,
'May live yet the notes of Thanksgiving to swell."

Then I said, O changeful but cheering year,
Dost thou know the Autumn THY glory will sear,
That winter shall spread her funeral pall
O'er thy graves as it has o'er thy fathers all?
He sang, "I shall finish MY mission and go;
'But to man is not given his death how to know."
'Let him sow while the spring gives her genial showers,
'Let him toil thro' the summer's long golden hours,
'Perchance he may garner his rich autumn store,
'Perchance he may bide where man wants no more;
'But he who hath toiled on in faith here below
'Hath a home in the blest better land we know."

DUTIES OF A MOTHER.—The Mother has grave and responsible duties devolving on her—and how few are qualified to discharge them properly. The great difference that we see in children --in their behavior and deportment, and also in their mental advancement is mainly owing to the training they have recieved from the mother.

An exchange paper speaking of a Mother, says:

"She should be firm—gentle—kind—always ready to stand to her child. She should never laugh at him---at what he does that is cunning ---never allow him to think of his looks, except he be neat and clean in all his habits. She should teach him to obey a look, to respect those older than himself; never make a command without seeing it performed in a right manner. Never speak of a child's faults or fellies, or repeat his remarks before him. It is a sure way to spoil a child. Never reprove a child when excited nor let your tone of vocie be raised when correcting."

DOMESTIC RECIPTS.

To Keep a Stove Bright.—Make a weak alumn water, and mix your "British Lustre" with it; put two spoonfuls to a gill of alumn water; let the stove be cold, brush it with the mixture; then take a dry brush and lustre and rub the stove till it is dry. Should any parts, before polishing, become dry so as to look gray, moisten with a wet brush and proceed as before. By two applications a year it can be kept as bright as a coach body.

To Cure Felons.—Within the past year we have known the spinal marrow of an ox or cow applied by three different persons, with the most satisfactory results, in relieving the pain and securing speedy cures of their felons. This we are sure will be useful information to many. The spinal marrow should be applied fresh every four hours for two days.

To Tell Good Eggs.—If you desire to be certain that your eggs are good and fresh, put them in water; if the buts turn up they are not fresh. This is an infallible rule to distinguish guish a good egg from a bad one.

Useful Receipt.—Wounds In cattle are quickly cured by washing several times a day with a mixture of the yolks of eggs and spirits of turpentine.

To Clean Paint.—Smear a piece of flannel with common whiting, mixed to the consistency of common paste, in warm water. Rub the surface to be cleaned quite briskly, and wash off with pure cold water. Grease spots will in this way be almost instantly removed, as well as other filth, and the paint will retain its brilliancy and beauty unimpaired.

Creosote for Warts. Dr. Rainey, of St. Thomas's Hospital, London, has written an article to the Lancet, detailing the effects of creosite applied to warts. He applied it freely to an obstinate warty excresence on the finger, then covered it over with a piece of sticking plaster. This course he pursued every three days for three weeks, when the wart was found to have disappeared, leaving the part beneath it quite healthy. This is certainly a remedy which can be easily applied by any person.

To Color Nankeen. Obtain at the tannery a quantity of ground bark, which soak in brass or copper over night, boil it smartly in the morning, wet your things to be colored, in alum water, put them in and give them a good boiling, some lye or soft soap added will make them much larger. By using copperas instead of alum you can make a very fashionable color between a drab and a slate.

How to Prepare Sausage Meat. Among the many ways that I have heard of for preserving sausage meat, I think the following receipe to be the best: To 25 lbs of meat chopped fine add 10 ounces of good ground pepper; 7 table spoonfuls of Sage. Warm the meat and mix thoroughly.

Editor's Table.

Notices of the Press.

We have heretofore refrained from copying any of the numerous complimentary notices of the *Valley Farmer*, with which our cotemporaries throughout the West, have very generally been pleased to extend to it, on the appearance of almost every monthly issue throughout the year; but the following notice from the pen of the talented and discriminating editor of the Louisville *Journal*, we hardly feel willing to let pass without perpetuating it in the columns of the work itself:

"The Valley Farmer.—This sterling agricultural periodical enters upon a new volume with the new year. We are glad to see that its success has been commensurate with its merits. The *Valley Farmer*, under its present able and skillful management, has become the *vade mecum* of the Western agriculturist. The singular energy, tact, industry, intelligence and sagacity displayed in its conduct have placed it in the very front rank of American agricultural journals. In one respect it is beyond all praise—we mean the admirable and unfailing judgment with which it ministers to the current wants of the farmers of the West. It is thoroughly *available*. It contains no waste matter. Everything in its columns has a definite purpose, and answers it effectively. Its articles are short, clear and pointed, and while uniformly conceived in the spirit of the most advanced agricultural science, they are as familiar and practical as the plainest fire-side conversation. The *Valley Farmer* combines all the simplicity and minuteness of a manual, with something of the freshness and novelty of a living teacher. It is popular in the best and highest sense."

A SAMPLE.

This number of the *Valley Farmer* is sent to some of our old subscribers, whose time expired last month, to be used by them, as a specimen of our work, in forming clubs and obtaining new subscribers. We hope that we shall not lose one of our former subscribers, but on the contrary, that they will renew the acquaintance made the past year, (which, we trust, has been mutually agreeable,) and introduce to us a large number of new subscribers from every neighborhood in the West. If they will do this, we will furnish them an agricultural journal, that they can be truly proud of as a Western production, created and sustained by Western Farmers.

Hedge Grower's Meeting.

MESSRS. EDITORS:—Please give notice of a meeting of Hedge Growers and patrons and advocates of Hedge Fences, to be held at Jacksonville, Ill., on Monday and Tuesday Jan. 26th and 27th, at such room as Prof. J. B. Turner shall provide.

This meeting is called for the purpose of a free interchange of opinions, comparing experiences, and to discuss and settle some principles of action which shall be shown to be specially important at this time.

Yourselves and all others interested, are invited to be present and participate in the business of the meeting.

Communications addressed to Prof. Turner from those who desire to be present but cannot, will be gladly received and considered.

It is expected that conventions of this kind will be demanded regularly and yearly; that reports shall be put before the public of matters carefully considered, and of such reliable authority as shall be some protection to the business of growing Hedges, and therefore tell well upon the interests of our country generally.

LOGAN SLEEPER.

ST. LOUIS, January 1, '57.

We call attention to the above notice. We are glad to see that there is to be a meeting of those who are interested in the spread of correct information in the important business of Hedge growing.

J. Payne Lowe, Esq.

This gentleman called at our office during our illness, and we regret that we had not the pleasure of seeing him. He is an assistant editor of the "Working Farmer," and a scientific agriculturist, and has been engaged in delivering lectures on agriculture in various parts of the West, which have been well received. We are glad to learn of the success of Mr. Lowe and hope he may continue in the good work he has so nobly begun.

We need more lecturers on all good subjects, and particularly upon agriculture. There is a great necessity for the spread of agricultural information among our people, and many will obtain this information from a lecturer, when they would not in any other manner. Therefore let us have agricultural lectures all over the country. They will do a vast deal of good. Our young farmers should qualify themselves to speak upon the pursuit which they have chosen for a life occupation. We need more speaking talent in the agricultural profession, and we hope we shall have it. Mr. Lowe is a pioneer in the cause and is deserving much praise.

Give Credit.

Some few of our exchanges copy article from our journal and publish them as original.—Where this is willfully done we consider it *the meanest kind of stealing.* We have before spoken of this matter. It is just as wrong to steal the product of one's brain, as it is to steal the product of his hands. We are led to make these remarks because we have seen numerous articles written by us, extensively copied and credited to other papers. Recently, an article taken from our journal, with its title changed, appeared in the "Soil of the South" and other papers, and was credited to *Goward's Real Estate Register,* published at Boston, Mass., where it appeared as original. Other papers, desiring to be honest, very innocently gave the credit to the "Register." The editor's brains, however, were taxed no further than to change the title of the article.

ENCOURAGING.—We are daily receiving highly complimentary letters from numerous subscribers of their high appreciation of the Valley Farmer.

We must confess it is highly gratifying to our feelings to know that our labors are so kindly received and appreciated. It will encourage us to renewed energy and diligence in endeavoring to make the work all that its warmest friends can desire. We are still more encouraged by the promptness with which many of our readers have renewed their subscriptions after the receipt of the December number. Not only have they renewed their own subscriptions, but scores of them have sent us long lists of additional names of new subscribers for the year 1857. To all these we tender our most hearty thanks.

SALE OF BROOD MARES.—We learn from the Bardstown (Ky.) Gazette, that R. A. Alexander, Esq., of Woodford Co., has purchased of Messrs. F. G. Murphy & Co., of Nelson Co., the following brood mares: Motto, price $1,000; Sally Ann, $1,000; Bettie Lewis $1,000; Kate Quinn $500.

The celebrated English race horse "SCYTHIAN," purchased by Mr. Alexander last summer in England for 1500 guineas, ($7500,) has also safely arrived at "Woodburn Farm."

ILLINOIS STATE AG. SOCIETY.—The biennial meeting of the Illinois State Agricultural Society, will be held in Springfield, on the 7th day of January, 1857, for the election of officers, and attending to other matters pertaining to the interests of the Society.

THE NEXT EXHIBITION OF THE UNITED STATES AGRICULTURAL SOCIETY. On the 22d of Dec., a public meeting was called at the Mercnants Exchange, in the city of Louisville, Ky., by order of the Board of Managers of the South Western Agricultural and Mechanical Association, to ascertain what amount of subscription could be obtained with a view to secure the next exhibition of the U. S. Agricultural Society at that city. At the time of this writing we have not learned the result of the meeting.

We are anxious that the next exhibition of this society should be secured to Kentucky, but we should greatly prefer that it should be held in Lexington rather than in Louisville. Lexington is the great centre of the Short Horn district and the chief desire we have for seeing it held in Kentucky, is, that the character of this stock should be more widely known and appreciated. It is true that some of the best stock may be brought to Louisville, but nothing like so good a display could be expected here as at Lexington. Hotel accommodations in Louisville are more extensive than at Lexington, but our friends in Fayette and the surrounding counties, will, we venture, manage to take care of all the persons who may be pleased to attend. We understand that Mr. Guthrie is authorised by the friends of Fayette to offer at the annual meeting to be held in Jan., in the city of Washington a sum sufficient to meet the probable expense of the exhibition, and we hope it will be secured to that section of the State.

PREMIUM BOOKS WITH DIPLOMAS.—Messrs. C. M. Saxton & Co., the enterprising publishers of Agricultural books, 140, Fulton St., New York, have executed a neat little engraving after the manner of the Diplomas usually awarded by Agricultural societies. These diplomas are designed to be pasted in front of the title page of Agricultural books to be awarded as small premiums at county and State exhibitions, and when filled up and signed by the President of any society is evidence of the award, and answers all the purposes of a diploma or certificate with something more tangible and always useful—the book itself.

We should like to see the practice universally adopted of awarding agricultural books and periodicals in the place of diplomas and small cash premiums. These would be permanent evidences of the success of the exhibitors of which they might always have reason to be proud.

SUBSCRIBERS in ordering the Valley Farmer will please write their names in a plain hand, giving not only the name of the Post Office, but the *County* and *State*. Those who write to change the direction of their paper should be sure to name the post office at which it has been formerly sent as well as the one to which they wish it directed.

TUFT'S PORTABLE FENCE.

We continne to receive letters in reference to this fence, and many of them are from other States than Missouri. The agent for the sale of this fence, Mr. J. M. Tooker, had authority to sell rights only in Missouri. There is an agent for every State, and those who have written us from other States, must obtain the right from the Agents of their respective States. Upon the urgent solicitation of Mr. Tooker we consented to make out the necessary contracts, if any person should call at our office and desire to purchase farm or county rights. We thought it would take but very little time, but in this we were mistaken. Every person before purchasing has a hundred questions to ask either with the tongue or pen, and we find that neither the state of our health, nor our business, will enable us to answer them all. We are glad to see the care and judgment which are used by our readers before purchasing new things. The Yankees, themselves, can't beat them in this particular.

The fence for many purposes we believe to be a good one. Its greatest merit is its portability —the ease with which it can be changed from place to place. It is cheaper than the common board fence, as the labor of digging holes and the cutting posts is saved, as also the price of the posts. But we are inclined to believe that when this fence is put up on our broad prairies, that it will be liable to be capsized, by our strong winds in fall and spring. We do not know that such would be the result, but fear it it would be. We believe that Mr. Tooker has concluded to give up the agency. He has sold, many county rights, but in many of the counties, he could find no purchaser. We think that the patentee, Mr. S. G. Tuft, will find it to his interest to appoint another agent.

REGISTER OF RURAL AFFAIRS.—We have received the third volume (being for 1857) of this Annual. It is published by Luther Tucker & Son, of Albany, N. Y., and is well worth the 25 cents asked for it. For sale by the publishers, or by Pitkin Brothers, Louisvile. If it is for sale in St. Louis, the fact has not been made known to us.

The Chinese Sugar Cane.

Of all the new plants introduced through the agency of the patent office, the Chinese Sugar Cane or Mallet seems to promise to be the most valuable. This is decidedly a corn growing country and the millet succeeds wherever the Indian corn thrives well. The partial failure of the sugar crop in Lousiana for the last year or two will do much to encourage the planting of the sugar millet and a thorough investigation of its sugar producing properties, However well the plant may prove adapted to this end, many will undoubtedly fail in their first attempt to make sugar, or even a passable article of syrup. Experimenst should be encouraged throughout the country. But we adviset he farmers not to go crazy over the prospects of an extensive sweet harvest, and be induced to pay exorbitant prices for the seed, or to be humbugged by the various seeds of a similar character and appearance of the millet tribe.

THE WHEAT CROP.—The past fall, an unusual amount of wheat was sown throughout the wheat growing districts. In consequence of the long continued drouth the growth is not so forward as to insure strong, deep rooted plants best calculated to withstand the effects of a severe winter. Should the weather, however, not prove variable, attended with frequent freezing and thawing, the crop will enter the spring in a promising condition.

OFFICERS OF THE SOUTH EASTERN AGRICULTURAL SOCIETY OF MISSOURI, FOR 1857.—We learn from the Cape Girardeau Eagle that a meeting of the above Society was held in Jackson on the 13th of Dec., and the following officers elected for the ensuing year, viz:

President.—GEN. N. W. WATKINS.

Directors:—Peter Byrne, Saml. T. Coker, H. H. M. Williams, W. C. Ranney, Jas. Russell, of Cape Girardeau County; Hon. J. C. Thomas, of Miss'ssippi; Col. M. N. Abernathy, of Bollinger; Luke Byrne of New Madrid; A. W. McLane of Perry; Orson Bartlett of Stoddard.

OFFICERS OF THE RALLS CO., (MO.) AGRICULTURAL SOCIETY FOR 1857.—*President*, Thos. Cleaver. *Directors*, Wm. Newland, Wm. Hutchison, C. F. Kritley, John M. Kelly, Col. H. Wellman, Geo. G. Muldrow, Wm. D. Coxe. *Secretary*, N. S. Dimmit. *Asst. Secretary*, Dr. C. F. Clayton. *Treasurer* John C. Briggs.

☞Will the Secretaries of county agricultural societies furnish us a list of the officers for 1857, for publication?

PORTER'S SPIRIT OF THE TIMES, A chronicle of the Turf, Field Sports, Literature and the Stage.

This is a weekly paper of 16 large pages which is edited and published by William T. Porter and George Wilkes at No. 346 and 348, Broadway, New York. It is a real live paper and no mistake, and should have thousands of subscribers in this part of the West. It is invaluable to the breeders of fine stock—especially horses. Terms, $3,00 a year. Address "Porter's Spirit," Broadway, New York.

ENQUIRIES. Our correspondents who request us to give information on the subjects of building stone walls in Kentucky; the Culture of Spring Barley; the Culture and uses of Rape Seed shall receive attention in our next monthly issue.

EDS. VALLEY FARMER.—Will you, Mr. Logan Sleeper, or some other person well acquainted with the business, inform me what it is worth to furnish the plants, set, cultivate and train, an Osage Orange Hedge until it is three years old? What are the plants worth at the Nursery?

E. E. BUZLEY.

BENTON CO., Ark.

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